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(See list of Publications, page 3 of this wrapper.)

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FIG. 1.—BAPTISM OF CHRIST.
BRIDEKIRK, CUMBERLAND.



FIG. 2.—BAPTISM OF CHRIST.
CASTLE FROOME, HEREFORDSHIRE.

ON FONTS WITH REPRESENTATIONS OF BAPTISM AND THE HOLY EUCHARIST.

By ALFRED C. FRYER, PH.D., F.S.A.

The Baptism of our Lord and the Last Supper are depicted on several English fonts, while the rite of Baptism as a sacrament of the Church and the celebration of the Holy Eucharist, or the emblems connected with it, are found on many others. The sculptures for our consideration in this paper will therefore fall under these four heads, (i) the Baptism of Christ, (ii) the rite of Baptism, (iii) the Lord's Supper, (iv) the Holy Eucharist.

The Baptism of Christ.

With the exception of one doubtful example¹ the Baptism of Christ is not found among the paintings in the catacombs of Rome, although it is met with in the famous mosaics of the baptisteries of St. John and Sta. Maria in Cosmedin at Ravenna. It is also found on ivories² which were carved about the middle of the sixth century, at the period when the great mosaics were executed; while the eighth century³ gives us a beautiful example carved on the wooden doors of the church of Sitt Miriam at Cairo.⁴ The treatment of the scene follows the account given in the Gospels, although it has been pointed out that the succession of events are depicted as all occurring at the same moment. Thus we find the Holy Spirit is descending as the Dove while our Lord is being baptized by St. John the Baptist instead of after He has come out of the river Jordan.⁵ "Accessories not mentioned in Holy Scripture are added, such as angels holding the tunic of Christ;"⁶ says Mr. J. Romilly Allen;⁷

¹ Northcote and Brownlow's *Roma Sotteranea*, III, 132.

² Westwood's *Catalogue of Fictile Ivories*, 39 and 43.

³ There is an inscribed ivory of the tenth century in the British Museum.

⁴ These are now preserved in the British Museum.

⁵ St. Matthew iii, 16.

⁶ Allen's *Christian Symbolism*, 287.

⁷ See Martigny's *Dict.*, art. "Aubes baptismales."

trees, perhaps in reference to the words of the Baptist (St. Matthew iii, 10)¹; and the river-god, leaning on an urn, and holding a reed, to personify the Jordan (or in some cases two river-gods, in accordance with the legendary belief that our Lord was baptized at the meeting of the Jor and the Danus as shown on the broken cross-shaft at Kells, co. Meath.²

On the rune-inscribed font at Bridekirk,³ Cumberland, an interesting example of the Baptism of Christ may be found (Pl. I, 1). The river Jordan is rising up in a heap,⁴ which some authorities believe was intended to symbolize the water going forward to meet our Lord, while others consider it is thus depicted in order to give the idea of perspective. Our Lord has the cruciferous nimbus,⁵ and He is undraped and immersed in the water up to His waist, while St. John the Baptist with moustache and in his garment of camel's hair,⁶ places both hands on the shoulders of the Saviour, and not on His head as is more frequently represented. The Holy Spirit is descending as the Dove "but the size of the bird is quite out of proportion to the other figures, and is more like a swan than a dove."⁷ Trees with interlaced branches and large bunches of fruit are introduced on either side.

¹ A withered and fruitful tree appears on a sculpture at Aquileja (Twining's *Symbols and Emblems*, pl. 65). Mr. J. Romilly Allen points out that a palm-branch occurs in the scene of the Baptism of Christ on the doors of Pisa Cathedral.

² *Martigny's Dict.*, art. "Jourdain," p. 401; Mrs. Jameson's *Life of our Lord*, I, 204; Didron, *Guide de la Peinture*, 164.

³ Some authorities consider that this font was made between the years A.D. 700 and A.D. 800 for the original church of St. Bridget; others, however, believe it was executed during the twelfth century and that runes were employed long after their supposed disuse. Professor Warsaw of Copenhagen, however, is of opinion that the sculpture on this font dates from the thirteenth century. The runes read:—"Richard he me wrought and to this beauty he diligently me brought." On the east face of the font a man is seen kneeling on one knee with upraised mallet, and it is thought that this figure represents the sculptor in the act of carving his font.

Mr. Henry Howard stated in a paper read before the Society of Antiquaries on May 14th, 1801, that there was a tradition that this font was removed from Papcastle to Bridekirk.

See Bloxam's *Gothic Ecclesiastical Architecture*, I, 130; Lysons's *History of Cumberland*; Calverley's *Early Sculptured Crosses, Shrines and Monuments in the diocese of Carlisle*, 68; Stephens's *Old Northern Runic Monuments*; paper read before the Society of Antiquaries by Mr. Henry Howard, May 14th, 1801; Cote's *Archæology of Baptism*, 245. Allen's *Christian Symbolism*, 287-289.

⁴ This peculiarity may be seen on the representations of the river Jordan on the fonts in St. Nicholas, Brighton; Lenton, Nottinghamshire; and Wansford, Northamptonshire.

⁵ The cruciferous nimbus is also depicted on the Lenton font, and we see it round the heads of the Doves portrayed on the fonts at Southfleet and Shorne, in Kent.

⁶ St. Matthew iii, 4.

⁷ Allen's *Christian Symbolism*, 289.

Adam and Eve with the story of the fall are sculptured on this font as well as the Baptism of Christ, and the lesson is the obvious one. As in Adam all die so in Baptism the new life is given. On the opposite side to the panel of the Baptism of Christ is an orb supported by a griffin and a sea-monster. It may be that these monsters and the orb have a symbolical meaning. Although the griffin is said to signify the devil in the bestiary, yet elsewhere he is conveying souls to heaven. The late Rev. W. S. Calverley points out that in Dante's vision (*Purgatorio*, xxix) a griffin draws the heavenly chariot. Didron considers it represents the Pope, but others interpret it as Christ. Ruskin, in his fine passage on the Griffin of Verona (*Modern Painters*, III, chap. 8) shows that it means the Divine Spirit in regenerate man, which here upholds the Sun of life. Mr. Calverley further adds: "So also does Cetus, Leviathan, the nature-power of water; but in spite of itself. See it writhing into knots, gnawing fiercely at the fire it would extinguish and yet compelled into service! For what says the Gospel? 'Except a man be born of Water, and of the Spirit'"

That was an age when symbols were used and, what is more, were understood. It is no straining of interpretation, and this sculptor Richard who carved this font was a real poet as well as a thoughtful artist, and he may very well have intended to depict something of this sort.

Father Haigh and Professor Stephens agreed in the main in the reading of the runes on the Bridekirk font.

+ RIKARTH HE ME IWROKT (E)

AND TO THIS MERTHE GERNR ME BROKTE.

This inscription, Professor Stephens says, is a mixture of Scandinavian runes and early English, and points to a strong Scandinavian element in the population. The dialect and style would lead us to believe that this font was carved in the twelfth century. Professor Stephens notes that a certain Richard of Durham was a famous architect and sculptor, living about 1120-1180. Of him Reginald of Durham tells the story that he owned a relic, a bit of St. Cuthbert's chasuble, and carried it about with him in a silken bag. One day while he was working at

Norham Castle, a French priest stole the bag, and opening it was disgusted to find nothing but a scrap of rag. He threw it on a fire, but it would not burn; and when Richard came back after two hours, there it was! Richard was a man of substance, and the most famous artist of his time in the North of England. Professor Stephens was therefore inclined to believe that it was he who carved the Bridekirk font, and wrote the runes upon it somewhere about the year A.D. 1160. When we consider the period to which this beautiful piece of sculpture belongs, and the rarity of highly artistic work executed at this date in Cumberland, we are inclined to grant that Professor Stephens's suggestion is not at all an unlikely one.

Mr. W. N. Cote in his work on *The Archaeology of Baptism*, writing on, this sculpture, says:—"In the baptism of Christ, He is represented standing naked in a kind of font or vase, with a nimbus, almost defaced, round the head, and over Him is a dove. By the side of the font stands John the Baptist, with his left hand behind the shoulders of the Saviour, and his right on His side." Both Mr. Cote and also Bishop Nicholson in his letter addressed to Sir William Dugdale have fallen into the error of not understanding the conventional representation of the river Jordan as portrayed on the Bridekirk font. Each writer believes the artist intended some "kind of font or vase," and it is so depicted in the illustration given on page 244 in *The Archaeology of Baptism*.

The font at Castle Froome,¹ Herefordshire, has an exceptional arrangement (Pl. I, 2). Here the river Jordan is represented by circular lines, and Christ, who is undraped with His hands placed on His breast, stands up to His waist in the water; while the artist has depicted four fish swimming about—two on either side of our Lord. St. John the Baptist with a maniple on his right arm stands on one side of the stream and places his hand on the head of the Saviour. The First Person of the Blessed Trinity is shown as the Hand, or *Dextera Dei*, giving the benediction, and the Third as the Dove. Thus all three Persons of the Blessed Trinity are represented on the sculpture of the

¹ This fine font has a circumference of 10 feet 9 inches, and three grotesques project some 18 inches from the base.

The font was doubtless constructed in the latter half of the eleventh century.



FIG. 1.—BAPTISM OF CHRIST.
SHORNE, KENT.



FIG. 2.—BAPTISM OF CHRIST.
SOUTHFLEET, KENT.

Castle Froome¹ font as being present at the Baptism of Christ. This is a most unusual arrangement, as in art we do not often find more than two portrayed. One of the exceptions is on the font at Gresham, Norfolk (Pl. III, 1), where all three Persons are depicted by the artist who sculptured it; while another exception is met with on the font at Southfleet in Kent (Pl. II, 2).

The eastern face of the celebrated font at Lenton,² Nottinghamshire, is divided into two compartments. The upper one contains six arcades³ each containing an angel, while below are five other arcades. The central one⁴ is larger and contains a representation of the Baptism of Christ (Pl. IV, 1). Our Lord having the cruciferous nimbus round His head stands up to His waist in the conventional water with both hands upraised in the ancient attitude of prayer. St. John the Baptist has his hand round our Lord's waist, and the First Person of the Blessed Trinity is depicted by the Hand symbol. The two arcades on either side of this sculpture each contain an angel below and a demi-angel above.⁵ An angel on one side of the sculpture representing the Baptism of Christ holds our Lord's clothes.⁶ Some writers have fallen into considerable error when describing this carving. For example Mr. Godfrey in his work on the Parish of Lenton⁷ remarks that this central arcade "contains a group considered to represent Christ's descent from the Cross." Those who study this panel, however, will see that Mr. Godfrey describes the sculpture erroneously, and that the artist who originally carved it most certainly intended the scene to represent the Baptism of Christ.⁸

¹ This font is illustrated in Allen's *Christian Symbolism*, 395.

² This font is said to have belonged to the Cluniac Priory of Lenton which was founded in the reign of Henry I. by William, son of William Peverel, the natural son of William the Conqueror. For several years it found a home in Lieutenant-Colonel Stretton's garden. The new church at Lenton was built A.D. 1842, and Lieutenant-Colonel Stretton most kindly restored the font to the church at the request of the Vicar.

³ Each arcade measures 11 inches by 5 inches; and the eastern face of the

font is 2 feet 10 inches high and 2 feet 6 inches wide.

⁴ This sculpture measures 1 foot by 9 inches.

⁵ The carving contains ten angels and the same number of demi-angels.

⁶ An early example in the baptistery at Ravenna shows the baptismal garment held by the river god. See Martigny's *Dict.*, art. "Aubes baptismales."

⁷ See *History of the Parish and Priory of Lenton*, by J. G. Godfrey, 269.

⁸ See descriptions and illustrations of the Lenton font in Allen's *Christian Symbolism*, 289; Paley's *Baptismal*

The Saviour is always represented undraped and standing in the river Jordan up to His waist. His hands are at His side at Bridekirk in Cumberland, Wansford¹ in Northamptonshire, and in other representations. Sometimes, however, His hands are crossed on His breast as at Grantham, Lincolnshire. On the font at St. Nicholas, Brighton² (Pl. IV, 2), the right hand is raised in benediction, while at Lenton, Nottinghamshire, both hands are upraised in the ancient attitude of prayer. In several representations our Lord has the cruciferous nimbus, as at Bridekirk in Cumberland and at Lenton in Nottinghamshire, but in most cases a plain nimbus, as at Southfleet and Shorne in Kent, surrounds His head. St. John the Baptist is generally portrayed in his raiment of camel's hair, and at Southfleet, Kent (Pl. II, 2), we find the head of the camel is actually adorning the lower part of the garment, while the upper portion may possibly be intended for a cloak blown back by the wind or else for a pair of wings. At Shorne, Kent (Pl. II, 1), he has a long gown with sleeves, at Wansford, Northamptonshire, he is vested like the other figures on the same font, at Castle Froome, Herefordshire, he has a maniple on his right arm, while at St. Nicholas, Brighton, we find him vested in alb and girdle and holding a round-shaped vessel which is doubtless a chrismatory, and a napkin or a sudary. "The sudary was a scarf of silk or linen," says Mr. Micklethwaite in one of the Alcuin Club Tracts, "which was cast about the shoulders, and in the ends of which the hands of those who carried certain objects ceremonially were muffled.

FonTS; Godfrey's History of the Parish and Priory of Lenton, 269.

¹ The carving upon this font is very rude, and a scroll of foliage runs round the top. The bowl is adorned with eight arcades, and the Baptism of Christ occupies two of them. St. John the Baptist stands in one arcade, and in the other Christ is half immersed in the conventional water. Above the head of our Lord and passing before the pillar of the arcade is a scroll which has now no inscription upon it. The arcades vary in size, but those representing the Baptism of Christ measure 1 foot 1 inch by 7 inches wide. This font is illustrated

and described in Simpson's *Baptismal Fonts*, but the author has quite failed to discover that two of the arcades contain a representation of the Baptism of Christ. Mr. Gough in his paper in *Archaeologia*, X, 187, erroneously calls this a leaden font. The date of the font is the twelfth century.

² The sculpture on the Brighton font representing the Baptism of Christ occupies three arcades and measures 1 foot 10 inches wide by 1 foot 4 inches high. For descriptions and illustrations of this font see Allen's *Christian Symbolism*, 289; *Antiquarian Reporter*, III, 185; Cote's *Archaeology of Baptism*, 249.



FIG. 1.—BAPTISM OF CHRIST.
GRESHAM, NORFOLK.



FIG. 2.—BAPTISM OF CHRIST.
WEST HADDON, NORTHANTS.

In quires it was used by the patener or third minister, when he brought in the chalice and when he held up the paten. But in parish churches its chief use was to carry the chrismatory at the solemn procession to the font at Easter. When not of linen, it seems to have been made of some old stuff of little worth."¹ At Shorne, Kent, and in six other instances² St. John the Baptist pours water on the head of Christ out of a jug, while at Sloley, Norfolk, a bowl is made use of. St. John the Baptist places his hands on the head of Christ at Wansford, Northamptonshire, and in other instances; at Bridekirk, Cumberland, they are laid on our Lord's shoulders; while at Lenton, Nottinghamshire, they are round His waist. St. John the Baptist kneels upon a rock on the bank of the river Jordan on the fonts at Grantham, Lincolnshire; Gresham, Norfolk; West Haddon, Northamptonshire (Pl. III, 2); and some other representations, while in all the other sculptures of the Baptism of Christ he is depicted as standing on the bank of the stream. The Baptist is portrayed at West Haddon, Northamptonshire, with an open book in his left hand; this is the only instance when he holds a book with the exception of the sculpture on Kirkburn font, and in this case it is more than doubtful if the figure is intended for St. John the Baptist as he is represented with the cruciferous nimbus.³ The river Jordan is treated in the conventional fashion of rising up in a heap in the sculptures at St. Nicholas, Brighton, Bridekirk (Cumberland), Lenton (Nottinghamshire), and Wansford (Northamptonshire), while at West Haddon⁴ the conventional water takes the form of a square font ornamented with the pellet pattern. We find an angel holding our Lord's

¹ Micklethwaite, *The Ornaments of the Rubric*, 54. Alcuin Club Tracts I.

In the South Kensington Museum is an offertory veil, 7792, of the fifteenth century, made of gold thread and velvet; it measures 14 feet 4 inches in length, by 1 foot 10 inches in width. Another, 7799, of later date, is of crimson velvet, measuring 11 feet 4 inches in length, by 1 foot 10 inches in width. Each of these offertory veils has a fringe of gold at the ends. *Vide Chambers, Divine Worship in England*, 274. See pp. 209, 210,

note ³ later in this essay. See Staley's *Studies in Ceremonial*, 202.

² Badingham (Suffolk), Binham Abbey (Norfolk) Gresham (Norfolk), Laxfield (Suffolk), Southfleet (Kent), and Westhall (Suffolk).

³ See description of the sculpture on Kirkburn font under the heading of "Rite of Baptism."

⁴ This sculpture is 1 foot 11 inches long and 1 foot wide. It is illustrated in Paley's *Baptismal Fonts*, Allen's *Christian Symbolism*, 294.

clothes at Grantham, Lincolnshire, and on nine¹ other representations of this subject. The First Person of the Blessed Trinity is portrayed on the sculpture of the Gresham font (Norfolk), while the Hand symbol or *Dextera Dei* is met with on the fonts at Lenton (Nottinghamshire), Castle Froome (Herefordshire), and Southfleet (Kent). In this last instance we find rays of glory surrounding the Hand. The Holy Spirit is represented as the Dove in the sculpture at Kirkbride, Cumberland, and at Gresham, Norfolk; while at Southfleet and Shorne, in Kent, the Dove has the cruciferous nimbus with rays of glory emanating from it.

Mr. W. N. Cote in his work on *The Archaeology of Baptism* writing on the sculpture of the font in St. Nicholas' Church, Brighton, says on page 249:—"The compartment to the left contains the figure of a man standing in the water up to his waist. One on the right is holding his clothes, and another on the left dressed in a conventional habit, like that of a priest, is presenting two rolls of linen. This sculpture represents the baptism of some great man converted to Christianity. These figures are shown as if standing under arches, probably meant for those of a baptistery." The writer of the above description is quite mistaken in his interpretation of this sculpture. The artist never intended to represent the baptism of a convert to Christianity, but of Christ Himself. The figure on the left is an angel holding our Lord's clothes, and the baptizer is St. John the Baptist, who is vested in alb and girdle and holds a round vessel which is doubtless intended for a chrismatory and a napkin or possibly the *sudarium*.

The Rite of Baptism.

The rite of Baptism is usually represented by a priest immersing either an infant or a grown-up person in a font.

One of the early representations in England is found

¹ Badingham (Suffolk), St. Nicholas Brighton, Gresham (Norfolk), Laxfield (Suffolk), Lenton (Nottinghamshire),

Sloley (Norfolk), West Haddon (Northamptonshire), Westhall (Suffolk), and Weston (Suffolk).



FIG. 1.—BAPTISM OF CHRIST.
LENTON, NOTTS.



FIG. 2.—BAPTISM OF CHRIST.
ST. NICHOLAS, BRIGHTON.

on the font at Darenth,¹ Kent (Pl. V, 1). Here we find a priest baptizing an infant in a font with a round bowl having a tall pedestal approached by two steps. A woman with long hair hanging down her back stands on the other side of the font.

The font at Fincham, Norfolk (Pl. V, 2), belonged originally to St. Michael's Church, but on the destruction of that edifice in 1744 it was brought to St. Martin's Church.² This font is square and each face is divided into three Norman arcades having cushion capitals each surmounted by a square abacus. The top and bottom edges are adorned with a band of ornamentation somewhat resembling the dog tooth pattern. The five supporting pillars are all of them modern. Some authorities believe that the west face of this font depicts the Baptism of Christ. For example the Rev. W. Blyth, M.A., in his notes on this font says:—"On the west is St. John the Baptist pointing to our Saviour, in the next division the Lord is coming up out of a pool within stonework, the Dove descending upon Him. The last of all is the figure of a bishop holding a crozier."³ The Rev. H. Bedford Pim in a recent article on this font⁴ says of this panel that it contains "(1) a bishop; (2) the Baptism of Christ (very singular); (3) an evangelist (?)," and he adds, "this font is quite unlike any

¹ This sculpture representing the rite of Baptism is depicted within one of the eight arcades which adorn the bowl, and it measures 1 foot 4½ inches high by 1 foot 1 inch wide. The figures are each 1 foot 1 inch high; and the font depicted in this sculpture has a round bowl 1½ inches deep, while the pedestal and steps measure 7 inches.

This font is illustrated in Thorpe's *Customale Roffense*, 94; Allen's *Christian Symbolism*, 292; Bagshaw's *History of Kent*; Bloxam's *Gothic Ecclesiastical Architecture*, I, 129; Cote's *Archæology of Baptism*, 248.

² From Bagshaw's *History of Kent* we learn that "this font was removed from an old chapel dedicated to Hilles St. Margaret, about a mile south-east of Darenth church, the chapel having fallen to decay. The ruins of the chapel are still seen in a field a little south-east of the manor house."

³ See Blyth's *Historical Notes on the Village and Parish of Fincham*, 64.

There is an incorrect account of the

Fincham font in *Archæologia*, X, 190. This account was written under the disadvantage of the font being covered with daub and whitewash. An old parish book gives the dauber's bill in 1766 at twelve shillings. There is, however, a better account of this font in the British Museum, but far from satisfactory. This was probably written under the same disadvantages. See MSS. 23,030 being Mr. Turner's *Bloomfield* illustrated, Vol. VII. The Fincham font is illustrated in Paley's *Baptismal Fonts*.

In Cote's *Archæology of Baptism* there is a short description of this font which erroneously states that the panel representing the rite of Baptism is intended for the Baptism of Christ.

⁴ See *Norman fonts in Norfolk* in the *Reliquary and Illustrated Archæologist*, IX, 53. Two illustrations of this font are given in this article by the Rev. H. Bedford Pim showing the north, east and south faces of the Fincham font.

other I have seen, though it is approached in character by the two fonts at Burnham Deepdale and Warham All Saints'." It is much more likely that the figure of the man half immersed in the square font with the Dove above him represents the Sacrament of the Church and not the Baptism of Christ. The figure which Mr. Blyth considers to be St. John the Baptist is doubtless intended for the priest who is baptizing the candidate for Baptism. His right hand is upraised and his left holds a book.¹

The bowl of the Norman font at Thorpe Salvin, Yorkshire, has a representation of the rite of Baptism sculptured in two arcades² (Pl. VIII, 2). The round font depicted in the sculpture is placed against the pillar between the two arcades and the priest who is vested in alb and stole is about to immerse a nude infant in it. The priest occupies one arcade and four other figures are placed in the other. One holds the open ritual and one has the chrism cloth on her arm. The four sponsors are stretching out their hands in token of their vow. The four seasons are sculptured on the Thorpe Salvin font, and some writers believe that the sculptor's design was to intimate that the baptismal rite might be administered at all times of the year; in contradistinction to that of marriage, which was not allowed but at particular seasons. In Saxon times, baptism was required to be administered within nine, or sometimes within thirty days, under a penalty. In the early period of Christianity the rite was only performed at Easter and Whitsuntide, a practice which continued in France until after the year 1200, as appears from several councils.

The sculpture on the font at Kirkburn, Yorkshire (Pl. VIII, 1), presents several difficulties. A candidate for Baptism is immersed up to his neck in a tub-shaped font, and the baptizer holds a book in his left hand and places his right hand on the head of the candidate. It is a curious

¹ The west face of this font measures 2 feet 7½ inches by 1 foot 7 inches; and each of the three arcades is 1 foot by 7½ inches. The font represented in the sculpture is 5 inches high by 4½ inches wide.

² This font was possibly carved in the twelfth century or it may date from the early years of the thirteenth. The date

given by Mr. Holden in his letter to the Duke of Leeds (see *Archæologia*, XII) is too early and it cannot be placed in the Saxon period.

See Cote's *Archæology of Baptism*, 250.

This sculpture is 1 foot 11 inches by 1 foot 4 inches; and is quite free from any mutilation.



FIG. 1.—BAPTISM.
DAHENTH, KENT.



FIG. 2.—BAPTISM.



FIG. 1.—BAPTISM.
GREAT WITCHINGHAM, NORFOLK.



FIG. 2.—BAPTISM.
GRESHAM, NORFOLK.

feature that he is represented with the cruciferous nimbus,¹ while there is no nimbus of any kind round the head of the figure in the font. On the opposite side of the font is a figure holding a book and a floriated branch, the meaning of which has given rise to a considerable amount of speculation. Mr. J. Romilly Allen in his work on *Early Christian Symbolism*² remarks:—"A crowned figure holding a somewhat similar branch is to be seen at Adel, and in this case perhaps it is intended for the personification of the river Jordan. The cruciferous nimbus is hardly ever applied to any other personage besides the Saviour, so that it is possible that the scene represented at Kirkburn is not the Baptism of Christ, but the rite of Baptism." Miss Twining in her *Christian Symbols and Emblems*³ gives a representation of the three Persons of the Blessed Trinity, two with the cruciferous nimbus and the third as the Dove, officiating at the rite of Baptism. Over the figure in the font at Kirkburn is the Holy Spirit in the form of the Dove.

Around the octagonal pedestal of the fourteenth century font at Upton, Norfolk (Pl. VII, 2), are eight figures representing the Sacraments of Baptism and the Holy Eucharist. They are one foot high and stand under exquisitely carved canopies. Baptism is symbolized by three sponsors—two women and one man—dressed in the lay costume of the fourteenth century. The godfather and one godmother hold rosaries in their hands, while the other godmother carries the infant in swaddling bands. The date of the font is most likely about A.D. 1380, and it was doubtless erected by the contemporary Lord of the Manor of Upton, John Batetourt or Buttetourt, as a memorial of the baptism of his only daughter and heiress Jocosa, who is doubtless the infant represented in her godmother's arms.⁴

Sculpture depicting the rite of Baptism may still be seen on the panel for Baptism on twenty-nine octagonal fonts⁵

¹ Allen's *Christian Symbolism*, 288.

² See page 291.

³ See pl. 65, fig. 7. From a history of the Bible, containing subjects of the Old and New Testaments placed together; thirteenth century (British Museum).

⁴ In the year A.D. 1399 she was the

wife of Sir Hugh Burnell, and she inherited the manor in her own right.

⁵ *Kent*, Farningham; *Norfolk*, Bingham Abbey, Brooke, Burgh-next-to-Aylesham, Cley, East Dereham, Great Witchingham, Gresham, Little Walsingham, Loddon, Marsham, Martham, Norwich Cathedral (St. Luke's chapel), Sall,

possessing representations of the Seven Sacraments.¹ These carvings show the priest vested in surplice and stole, immersing a nude infant in an octagonal font. Two acolytes in long surplices carry the open book of the ritual and the chrismatory. Frequently a woman is shown with the chrism cloth and other figures are introduced. At Brooke the remains of the words *baptizo te in nomine Patris* are still visible on the open book of the ritual (Pl. VI, 1, 2, Pl. VII, 1).

The Last Supper.

It is very doubtful if any of the Catacomb paintings were intended for the Last Supper.² However, there is a seventh century Gospel preserved in Corpus Christi College, Cambridge.³ Here a horseshoe table is represented with a chalice and six loaves placed upon it. Our Lord is seated in the centre and holds a loaf in His left hand while He is giving the benediction with His right, and five Apostles are placed on one side and three on the other. On an example in Egypt,⁴ which is supposed to be a century later than the Gospel in Corpus Christi College, Cambridge, we also find a horseshoe-shaped table depicted, and upon it are placed twelve circular loaves and one fish. In this representation it has been pointed out that our Lord is seated at one end of the table and is taking up the fish with His right hand.⁵

We have in England two representations of the Last Supper as ornamentations on two fonts dating from the twelfth century. In both cases a long straight table is employed with Christ seated in the centre and the Apostles arranged symmetrically on either side. At North Grims-

Sloley, Walsoken, West Lynn; *Somerset*, Nettlecombe; *Suffolk*, Badingham, Blythburgh (the sculpture on this panel is completely mutilated), Cratfield, Gorleston, Great Glemham, Laxfield, Melton, Southwold (the sculpture on this panel is completely mutilated), Westhall, Weston, Woodbridge.

¹ For a description of these fonts having representations of the Seven Sacraments sculptured upon them, see *Arch. Jour.*, LIX, 17 to 66.

² Tyrwhitt's *Art Teaching of the Primitive Church*; and Article "Eucharistie," in Martigny's *Dictionnaire des Ant. Christ.*

³ *Palaeog. Soc. Publ.*, pl. 34.

⁴ This representation of the Last Supper is on the carved wooden panels in the Church of Abu Sargah, Old Cairo, Egypt.

⁵ Butler's *Coptic Churches in Egypt*, I, 191.



FIG. 1.—BAPTISM.
SLOLEY, NORFOLK.



FIG. 2.—BAPTISM.
UPTON, NORFOLK.



FIG. 1.—BAPTISM.
KIRKBURN, YORKSHIRE.



FIG. 2.—BAPTISM.
THORPE SALVIN, YORKSHIRE.

ton,¹ Yorkshire (Pl. IX, 2), the circumference of the bowl is 10 feet 2 inches, while the size of the sculpture depicting the Last Supper is 7 feet 6 inches in length and 2 feet 3 inches in depth. Here we find Christ seated in the centre of a long straight table extending across the whole length of the sculpture with six Apostles on one side and six on the other. Our Lord is represented with the cruciferous nimbus round His head, and both hands are raised, but the right is in the act of giving the benediction. The lower portions of the robes of the Apostles are variously ornamented and they appear to be standing,² while our Lord is seated, His feet resting on a stool. Nine Apostles hold books in their hands, six have knives in their right hands, while the remaining six have their right hands resting upon the table. One has his right hand, another his left, placed on his breast, while a third has hidden his left hand under the table. A dish with a fish upon it, a knife, a vessel which may be intended for the wine, and a round object which is doubtless the bread, are placed before our Lord. On the other portion of the table are six dishes, each containing one fish, six vessels most likely for wine or water, two loaves each marked by a cross, and five objects which may perhaps represent pieces of bread, or possibly some may be intended for cups or vessels of one kind or another.

Considering the Last Supper from an artistic point of view, Mrs. Jameson reminds us that there is great difficulty in dealing with this subject in consequence of the "number of figures, and the monotonous and commonplace character, materially speaking, of their occupation."³ When a horseshoe or quadrant-shaped table was employed there was, comparatively speaking, little difficulty in arranging the figures in an artistic manner, and consequently the Apostles might be grouped in a more natural way; but the twelfth century representations generally show a long straight table extending across the sculpture.⁴

¹ The sculpture of the Last Supper on the North Grimston font is illustrated in Allen's *Christian Symbolism*, 303.

² In all probability the artist intended them to be represented as seated.

³ See *Sacred and Legendary Art*.

⁴ Besides the representations of the Last Supper on the fonts at North

Grimston and St. Nicholas, Brighton, the subject occurs on Norman sculpture in Southwell Cathedral. It is carved in bas-relief at the entrance to the Cathedral of Lodi, and dated 1163; and also on the lintel of the doorway of the Church of St. Gilles, Département du Gard in France. For representations on

The difficulty of portraying an artistic picture evidently presented itself to the artist employed on the Norman font in St. Nicholas' Church, Brighton (Pl. IX, 1), and consequently he only reproduced our Lord and six of the Apostles. Like the sculpture on the North Grimston font the Saviour occupies the central position with three Apostles on one side and three on the other. Christ has the cruciferous nimbus round His head, His chin is shaven and He has a moustache, His right hand is upraised in benediction over the cup, and His left is placed on the bread which is depicted as a circular loaf. Each Apostle has a cowl over his head, and the six have their right hands upraised with the palms spread outwards. All six Apostles are represented with moustaches; two have their chins shaven and four have beards. The folds of the table-cloth are very elaborate, and besides the cup and the bread placed before our Lord there are two other circular loaves, a large round dish, a basin and a jug upon the table. The Apostle who is seated to the right of the Saviour has a square nimbus, or perhaps it may be the back of the chair seen above his head. This same Apostle holds in his left hand an object which, it has been suggested, may be a napkin rolled up, or possibly a roll of the Gospels. This font has a circumference of 8 feet 5 inches, and the sculpture representing the Last Supper measures 2 feet 9 inches in length and 1 foot 4 inches in depth.

The Holy Eucharist.

On twenty-one fifteenth century fonts¹ the celebration of the Holy Eucharist is represented at the moment when

ivories see Westwood's Catal. No. 350; a plaque of a casket at Salerno Cathedral, Italy, has this subject; and there is a representation of the Last Supper in a twelfth century Lombardic copy of Lessons from the Gospels (Westwood's *Palaeographia Pictoria Sacra*); also see Allen's *Christian Symbolism*, 301.

¹ *Norfolk*, Binham Abbey, Brooke, Burgh-next-to-Aylesham, Cley, Great Witchingham, Gresham, Little Walsingham, Loddon, Marsham, Martham, Norwich Cathedral (St. Luke's chapel), Sall, Walsoken, West Lynn; *Somerset*, Nettle-

combe; *Suffolk*, Badingham, Gorleston, Laxfield, Melton, Westhall, Weston.

At Blythburgh, Cratfield and Southwold (Suffolk) the panel depicting the celebration of the Holy Eucharist has been completely mutilated. At Blythburgh William Dowsing performed his work so thoroughly that not a vestige of carving remains on the bowl; at Southwold, only traces of the positions once occupied by the sculptures can be discerned, while at Cratfield the barbarian who defaced this panel has cut it away so completely that it now appears as if



FIG. 1.—THE LAST SUPPER.
ST. NICHOLAS, BRIGHTON.



FIG. 2.—THE LAST SUPPER.
NORTH GRIMSTON, YORKSHIRE.

the priest, robed in Eucharistic vestments, stands before the altar and is in the act of elevating either the chalice or the Sacred Host. In four instances candles stand on the altar,¹ and in six representations² we find acolytes holding flaming torches. In three examples³ the sacring-bell is introduced and is rung by means of a rope.

At Farningham,⁴ Kent, the priest is shown as genuflecting immediately after the consecration, holding the Sacred Host in his hand, before the elevation. At Sloley,⁵ Norfolk, the priest is turning round to say the *Orate fratres* before he says the *Secreta* of the mass, the missal being on the Gospel side of the altar, while at East Dereham,⁶ Norfolk, the crucifix, candles, etc., are removed so as to give a full view of the priest, with the chalice on the altar in front of him, apparently a little before the Consecration. At Great Glemham and Woodbridge⁷ in Suffolk the priest has left the chalice on the altar and has turned towards a man and woman in order to communicate them. In both instances, the priest is simply vested in alb and crossed stole, while the communicants hold a houseling-cloth before them.

The two fifteenth century fonts of Shorne and Southfleet,⁸ in Kent, have the same idea represented on each depicting the Holy Eucharist with a slight difference in the detail. At Shorne we find a chalice (5½ inches high) (Pl. XI, 1) carved on one of the faces of the octagonal font. Resting upon it is the Sacred Host, surrounded by rays of glory, while the Saviour, with the cruciferous nimbus round His head and both hands upraised in benediction, is rising out of it.

no carving had ever been sculptured upon it.

For a description of the carvings representing the Holy Eucharist on these fifteenth century fonts see paper on *fonts with representations of the Seven Sacraments*, *Arch. Jour.*, LIX, 25.

¹ Norfolk, Gresham, Little Walsingham, Walsoken; Suffolk, Badingham.

² Kent, Farningham; Norfolk, Cley, Great Witchingham, Sloley, West Lynn; Somerset, Nettlecombe.

³ Brooke, Cley, Marsham (Norfolk).

⁴ A kneeling acolyte holds the priest's chasuble in one hand and a tall torch in the other. The chalice stands upon the altar.

⁵ Two servers, one with a torch, stand on a step behind the altar. There are two kneeling figures before the altar.

⁶ A deacon and sub-deacon stand on either side of the priest, and a figure kneels at each end of the altar.

⁷ In these two panels the ladies are represented as wearing the butterfly head-dress; so these sculptures may have been executed about the year 1483, when this head-dress was in fashion and betokened a lady of rank.

⁸ The fonts at Shorne and Southfleet are both figured in Thorpe's *Customale Roffense*, 110.

At Southfleet the chalice (7 inches high) (Pl. X, 2) also occupies one face of the octagonal font. The Sacred Host surrounded by rays of glory rests upon the chalice, while our Lord, who is throned in majesty, rises out of it.

The font at Upton,¹ Norfolk (Pl. XII, 2; XIII, 1), has eight² figures round the pedestal standing under exquisitely carved canopies projecting 5 inches. Three figures symbolize the Sacrament of Baptism and five the Holy Eucharist. The last-named sacrament is represented by a bishop vested in alb, dalmatic, and chasuble. He holds his crozier in his left hand, his right is upraised in benediction, and his feet rest on a double dragon with but one head connecting two bodies. It has been suggested that this ecclesiastic is Henry de Spenser, the contemporary Bishop of Norwich whose distinguishing title was the "warlike bishop." The bishop is supported on his right and left by two angels, robed and girded, with circlets and crosses on their heads. Each angel holds a candle placed in a massive candlestick. It has been suggested that the graceful lines of the wings of these two angels indicate the probability that the artist who carved this beautiful font may have belonged to a Continental guild of stone carvers.³ Besides the bishop and the two angels there are two figures vested as deacon and sub-deacon or patener. One holds the open book of the Gospels and the other the chalice and pyx; one is vested in alb and dalmatic, and the other in alb and tunicle, and each has a maniple upon his left wrist. It has been thought that both the deacon and sub-deacon are in priest's orders, as the ends of their stoles can be seen on their albs under their dalmatics.

The pedestal of the font at Sutton,⁴ Suffolk (Pl. XIII, 2), is adorned with eight figures representing the celebrant and attendants at the celebration of the Holy Eucharist:—(i) Man in alb and amice carrying

¹ This font was carved about A.D. 1380. See *Ecclesiastical Curiosities*, 148-152, where an illustration is given.

² Each figure is 1 foot high.

³ See paper concerning *font-lore*, by the Rev. P. Oakley Hill, published in Andrews' *Ecclesiastical Curiosities*.

⁴ This is an octagonal font and it was sadly mutilated about 1644. It is inte-

resting to note that the church of Sutton belonged to the nuns of Bruisyard, Suffolk, in A.D. 1380.

For a full description of the Sutton font, see *The Sandling*, by Vincent B. Redstone in the *Proceedings of the Suffolk Institute of Archaeology*, X, 68. This paper contains a good illustration of this font.



FIG. 1.—THE HOLY EUCHARIST.
SHORNE, KENT.



FIG. 2.—THE HOLY EUCHARIST.
SOUTHFLEET, KENT.



FIG. 1.—THE HOLY EUCHARIST.
BROOKE, NORFOLK.



FIG. 2.—THE HOLY EUCHARIST.
GREAT WITCHINGHAM, NORFOLK.

a processional cross. (ii) Master of ceremonies vested in alb and crossed stole. (iii) Acolyte in cassock and surplice. (iv) Boy in surplice and amice with the censer. (v) Acolyte in cassock and surplice. (vi) Deacon in dalmatic having two cross bars, and holding an open missal. (vii) ~~Priest~~ Priest in Eucharistic vestments. (viii) Sub-deacon in tunicle with one cross bar. On the chamfer are the following eight utensils placed under the eight compartments of the octagonal bowl:—(i) The chalice. (ii) The censer. (iii) The paten. (iv) A vessel for holding the wine. (v) The closed Gospels with strap and clasp. (vi) The holy water "vat." (vii) The dispenser "ship." (viii) The corporal, or perhaps it is intended for the *sudarium* or *offertorium*.

A somewhat similar arrangement is met with at Tuddenham St. Martin in the same county. The utensils are not placed on the chamfer like the Sutton font, and the eight effigies which adorn the pedestal have at one period been seriously mutilated.¹ However, at a later date they have been restored and it is difficult to know if the original design has been quite correctly carried out. The larger figures are 15 inches in height, and they represent the celebrant with his attendant at a celebration of the Holy Eucharist. (i) A man vested in alb carrying the processional cross. (ii) The celebrant vested in alb, crossed stole, and cope fastened with an ornamented morse holds an open service book.² (iii and iv) Two priests vested in albs. One has a crossed stole and holds a closed book, doubtless intended for the Book of the Gospels, and he has a large cloth over his arm which is possibly the *sudarium*,³ patener's veil, *offertorium*, or humeral veil; the

¹ Most likely about the year 1644. William Dowling was appointed by the Earl of Manchester as "Visitor of the Suffolk Churches," December, 1643, for the purpose of destroying and demolishing altars, candlesticks, pictures, and images. His *Diary* contains most interesting particulars as to the way in which he carried out this mission.

² It is interesting to observe that the celebrant is vested in a cope and not a chasuble.

³ The sudary was a long scarf of silk or linen, and the ends enveloped the hands of those who carried certain objects

ceremonially. For example, the sub-deacon or patener used it when he brought in the chalice or when he held up the paten. See Micklethwaite, *The Ornaments of the Rubric*, 34. Alcuin Club Tracts I.

The *sudarium* was intended to protect the chalice and paten from the moisture of the hands of the person carrying them, and Mr. Cuthbert Atchley, who possesses an extensive knowledge of ceremonial matters, remarks that the sudary "was not used by the priest."

"The Sarum directions were, that the *offertorium*, or offertory veil, and the

other priest has a maniple over the left wrist. (v, vi, vii, viii) Four acolytes vested in cassocks and surplices. One carries a bowl doubtless for water, another a closed service book, the third a paten with bread upon it, and the fourth has a vessel which may be for the wine. This font was erected in A.D. 1443, at the expense of Richard and Agnes Silvester, as recorded on the base.¹

corporasses be placed on the chalice, and be carried in by the collet vested in alb and silk mantle. Later on in the Service, the paten wrapped in the *offertorium* is to be given to the collet to hold" (*vide The Use of Sarum*, Frere, I, 69, 79.) At Lincoln, the epistoler brought in the chalice, holding it with a sudary. The gospeller and his fellow-deacons, after the *Sanctus*, carried in the paten wrapped in a sudary, and gave it to the epistoler to hold during the canon. (*Vide Statutes of Lincoln Cathedral*, H. Bradshaw and Chr. Wordsworth, I, 378, 380.) The *sudarium* and the *offertorium* were evidently identical, having no connection with the linen corporas. . . . In the Inventory of the Vestry in Westminster Abbey, taken in 1388, occurs, "Item unus casus de panno rubio aureo cum duobus sudarijs de panno albo vocato tartaryn pro oblacione facienda et pro patena tenenda per predictum R.F. ad utramque missam assignatus," *Archæologia*, 1888, LII, i, 270. Amongst the Lent stuff at the Dissolution, were, "Oon corporas case with corporaces, ij white sydarycs" (In-

vent. 1540, *Ibid.*) Here the distinction between the corporas and the sudary is marked. The difference is again proved by consulting Dugdale's Inventory of St. Paul's Cathedral, A.D. 1295, pp. 216, 217, in which Corporalia and Offertoria are given under different headings. Staley, *Studies of Ceremonial*, 202.

¹ The panels of the bowl are adorned with angels, the evangelists, and the donor of the font (Agnes Silvester). She is represented at her devotions with a cherub looking down upon her. The church at Tuddenham is dedicated to St. Martin, and the raising of the unbaptized disciple to life by this saint is here depicted by the representation of the dead woman lying in bed. The custom of the period (A.D. 1443) of sleeping in bed not wearing a night garment is shown, and it is said that this custom is still prevalent among the Suffolk peasants. The cloak of St. Martin is represented near the dead woman; and it is probable that the scrolls and labels which are to be seen once bore legends or inscriptions.



FIG. 1.—THE HOLY EUCHARIST.
GREAT GLENHAM, NORFOLK.



FIG. 2.—THE HOLY EUCHARIST.
UPTON, NORFOLK.



FIG. 1.—UPTON, NORFOLK.



FIG. 2.—SUTTON, SUFFOLK.

APPENDIX.

FONTS WITH REPRESENTATIONS OF BAPTISM AND THE HOLY EUCHARIST.
TABLE NO. I.—THE BAPTISM OF CHRIST.

	Dimensions of sculpture on panel.	Number of figures.	REMARKS.	
			Ins.	No.
CUMBERLAND. Bridelick, St. Bridget	16 × 11	3	St. John the Baptist clothed in a garment of camel's hair (Matt. iii. 4), places each hand on the shoulders of Christ, who is half immersed in the river Jordan. The Holy Spirit descends in the form of a Dove, which, however, is more like a swan; while on either side are conventional trees bearing fruit and having interlaced branches. Our Lord has the cruciform nimbus. (Pl. I, 1.)	
HEREFORD. O Castle Froome, St. Michael and All Angels.	17 × 17	4	The Three Persons of the Holy Trinity are represented in this sculpture, the First as the Hand or <i>Dextera Dei</i> giving the benediction, the Second as our Lord being baptized in the river Jordan, and the Third as the Dove. St. John the Baptist has a maniple on his right arm and four fishes are swimming in the water. (Pl. I, 2.)	

TABLE No. I.—THE BAPTISM OF CHRIST—continued.

	Dimensions of sculpture on panel.	Number of figures.	REMARKS.	
KENT.	Inch.	No.		
Shorne, Ss. Peter and Paul.	15 x 11	3	St. John the Baptist pours water out of a jug upon the head of Christ, who is half immersed in the river Jordan. The Holy Ghost is represented in the form of a Dove having a cruciform nimbus with rays of glory emanating from it. (Pl. II, 1.)	
Southfleet, St. Nicholas ...	13 x 12	4	St. John the Baptist clothed in a garment of camel's hair, showing the head of the camel, is pouring water out of a jug upon our Lord's head. Our Lord is half immersed in the river Jordan. The Holy Spirit is depicted in the form of a Dove having a cruciform nimbus, from which rays of glory emanate, while the First Person of the Blessed Trinity is shown as the Hand with rays of glory around it. St. John is represented as having wings, or a cape blown about by the wind. (Pl. II, 2.)	
LINCOLNSHIRE.				
Grantham, St. Wulfram ...	13 x 12½	4	St. John the Baptist, clothed in a garment of camel's hair, kneels while he is baptizing our Lord, who has His hands crossed upon His breast and is half immersed in the river Jordan. The Holy Spirit is represented as a Dove and a figure holds our Lord's clothes with both hands. The sculpture is sadly mutilated.	
NORFOLK.				
Binham Abbey ...	11 x 11	3	See <i>Arch. Jour.</i> , LIX, 64.	
Gresham, All Saints ...	12 x 12	5	" " " 65. (Pl. III, 1.)	
Sloley, St. Bartholomew ...	12 x 11	3	" " " "	

NORTHAMPTONSHIRE.				
Wansford, St. Mary	...	13 x 12	2	St. John the Baptist pours water on the head of Christ, who is half immersed in the river Jordan. Near the head of our Lord is a scroll which has now no inscription upon it.
West Haddon, All Saints		23 x 12	3	St. John the Baptist holds an open book in one hand and baptizes our Lord with the other. An angel holds our Lord's clothes, and on this panel the conventional water has the appearance of a square font. (Pl. III, 2.)
NOTTINGHAMSHIRE.				
Lenton, Holy Trinity	...	12 x 9	4	Our Lord is half immersed in the river Jordan with the water treated after the conventional fashion, i.e. rising up in a heap. He has the cruciform nimbus and both hands are upraised in the ancient attitude of prayer. St. John the Baptist holds our Lord round the waist, and the First Person of the Blessed Trinity is shown as the Hand or <i>Dextera Dei</i> giving the benediction. An angel holds our Lord's clothes, and nineteen other angels are represented in the various arcades of which the Baptism of Christ forms the central group. (Pl. IV, 1.)
SUFFOLK.				
Badingham, St. John the Baptist.		11 x 11	3	See <i>Arch. Jour.</i> , LIX, 65.
Laxfield, All Saints	...	10 x 10	3	" " " 66.
Westhall, St. Andrew	...	11 x 10	3	" " " "
Weston, St. Peter	...	8 x 9	3	" " " "
SUSSEX.				
Brighton, St. Nicholas	...	22 x 16	3	Christ stands up to His waist in the conventional water which rises in a heap around Him. An angel holds our Lord's clothes, and St. John the Baptist is robed in alb and girdle and holds a round vessel and a napkin. (Pl. IV, 2.)

TABLE No. II.—THE SACRAMENT OF BAPTISM.

	Dimensions of sculpture on panel.	Number of figures.	REMARKS.
	Ins.	No.	
KENT.			
Darenth, St. Margaret ...	16½ x 13	3	A priest is immersing a nude infant in a bowl on a tall pedestal placed on two steps. A woman with hair reaching to her shoulders stands on the other side of the font. (Pl. V, 1.) See <i>Arch. Jour.</i> , LIX, 44.
Farningham, Sts. Peter and Paul.	8 x 7½	4	
NORFOLK.			
Binham Abbey ...	11 x 11	?	"
Brooke, St. Peter ...	9 x 10	6	
Burgh-next-to-Aylesham, St. Mary.	9 x 8	6	"
Cley, St. Margaret ...	11 x 11	8	"
East Dereham, St. Nicholas	12 x 10	8	"
Fincham, St. Martin	13 x 7½	2	A man is half immersed in a square stone font, and the Holy Spirit in the form of a Dove is descending upon him. (Pl. V, 2.)

					See <i>Arch. Jour.</i> , LIX, 44. (Pl. VI, 1.)	
Great Witchingham, St. Mary.	11 x 11	8	"	"	(Pl. VI, 2.)	
Graham, All Saints	12 x 12	9	"	"		
Little Walsingham, St. Mary and All Saints.	12 x 10	5	"	"		
Loddon, Holy Trinity	9 x 8	?	"	"		
Marham, All Saints	10 x 10	8	"	"		
Marham, St. Mary	13 x 11	6	"	"		
Norwich Cathedral, Chapel of St. Luke.	10 x 8	6	"	"	LIX, 45.	
Salt, St. Peter and Paul	12 x 10	8	"	"		
Sloley, St. Bartholomew	12 x 11	6	"	"	(Pl. VII, 1.)	
Upton, St. Margaret	...	4	"	"		
Walsoken, All Saints	10 x 12	6	"	"	Baptism is symbolized by the sponsors—two women and one man dressed in the lay costume of the date 1380. The godfather and one godmother have rosaries in their hands, while the other godmother holds the infant in swaddling bands. These figures are one foot in height and adorn the stem of the font and stand under projecting canopies, five inches in depth. (Pl. VII, 2.)	
West Lynn, St. Peter	9 x 9	4	"	"	See <i>Arch. Jour.</i> , LIX, 45.	
SOMERSET.			"	"		
Nettlecombe, St. Mary	11 x 11	6	"	"		
SUFFOLK.			"	"		
Badingham, St. John the Baptist.	11 x 11	7	"	"		
Blythburgh, Holy Trinity	8 x 12	?	"	"		
Cratfield, St. Mary	11 x 12	5	"	"		
Gorleston, St. Andrew	15 x 11½	7	"	"		
Great Glenham, All Saints	11 x 10	5	"	"		
Ixfield, All Saints	10 x 10	5	"	"		
Melton, St. Andrew	8 x 11	6	"	"		

TABLE NO. II.—THE SACRAMENT OF BAPTISM—continued.

	Dimensions of sculpture on panel.	Number of figures.	REMARKS.
	Ins.	No.	
Southwold, St. Edmund ...	10 x 10	?	See <i>Arch. Jour.</i> , LIX, 45.
Westhall, St. Andrew ...	11 x 10	5	" " "
Weston, St. Peter ...	8 x 9	7	" " "
Woodbridge, St. Mary ...	10½ x 10½	5	" " "
YORKSHIRE.			
Kirkburn, St. Mary ...	18 x 13	3	This sculpture is rude in execution and possesses some curious features. It has been thought that it was intended to represent the Baptism of Christ. However, the Saviour is not in the river, but in a font and has no nimbus, while St. John the Baptist has the cruciferous nimbus. A figure on the opposite side of the font holds a book and a floriated branch. It seems more probable that this scene is not the Baptism of Christ, but the Rite of Baptism. The Holy Spirit is represented as the Dove. (Pl. VIII, 1.)
Thorpe Salvin, St. Peter ...	23 x 16	6	Priest in alb and stole is about to immerse an infant in a plain round font. The priest occupies one arcade and four figures on pedestals fill the other; one holds the chrism cloth and each is extending the right arm. The font in the sculpture is placed against the pillar between the two arcades, and the carving most likely dates from the early part of the thirteenth century. (Pl. VIII, 2.)

TABLE NO. III.—THE LAST SUPPER.

	Dimensions of the sculpture.	Number of figures.	REMARKS.
	Ins.	No.	
Sussex. Brighton, St. Nicholas	33 × 16	7	<p>Our Lord is seated at a long straight table, extending across the whole panel. He occupies the central position and on each side are three of the Apostles. Christ is depicted with the cruciferous nimbus round His head, and He is represented with His chin shaven and having a moustache. His right hand is upraised in blessing the cup, while His left is placed on the bread. Each of the Apostles has his right hand upraised with the open palm spread outwards. The Apostles have cowls over their heads. The six are represented with moustaches, two have their chins shaven, and four have beards. The folds of the linen cloth covering the table are very elaborate, and besides the cup and bread before our Lord, there are two other circular loaves, a round dish or basin, a jug and a round vessel which an Apostle to the right of our Lord holds in his left hand. (Pl. IX, 1.)</p>

TABLE NO. III.—THE LAST SUPPER—*continued*.

	Dimensions of the sculpture.	Number of figures.	REMARKS.	
	Ins.	No.		
YORKSHIRE. North Grinston, St. Nicholas.	90 x 27	13	<p>Our Lord is seated in the centre of a long table, and six of the Apostles are on His right and six on His left. He is shown with the cruciferous nimbus round His head, and both hands are upraised, but the right is in the attitude of blessing. The lower portions of the robes of the Apostles are variously ornamented and they appear to be standing, while our Lord is seated, His feet resting upon a stool. Nine Apostles hold books in their left hands, six have knives in their right hands, and the remaining six have their right hands resting upon the table. One has his right, another his left hand on his breast, while a third has hidden his left hand under the table. Four objects are placed before our Lord, the centre one is a dish with a fish on it, a vessel which may be intended for one containing the wine, a round object which is doubtless the bread, and a knife. On the other portion of the table are six dishes each containing one fish, six vessels doubtless filled with wine or water, two loaves each marked with a cross, and five objects which may perhaps represent pieces of bread, or possibly some are intended for cups or vessels. (Pl. IX, 2.)</p>	

TABLE NO. IV.—THE HOLY EUCHARIST.

	Dimensions of sculpture.	Number of figures.	REMARKS.
KENT.	Ins.	No.	
	8 x 7½	2	See <i>Arch. Jour.</i> , LIX, 48.
	15 x 11	1	The Holy Eucharist is represented by a chalice (5½ ins.), with the Sacred Host above it. The Lord is rising out of the chalice, and is depicted with the cruciform nimbus and both hands upraised in blessing. Rays of glory encircle the Sacred Host. (Pl. X, 1.)
	13 x 12	1	The Holy Eucharist is depicted by a chalice (7 ins.) with the Sacred Host above it. The Saviour rises out of the chalice throned in majesty, and rays of glory surround the Sacred Host. (Pl. X, 2)
NORFOLK.	Ins.	No.	
	11 x 11	3	See <i>Arch. Jour.</i> , LIX, 49.
	9 x 10	3	" " " (Pl. XI, 1.)
	9 x 8	1	" " "
	11 x 11	5	" " "
	12 x 10	6	" " "
	11 x 11	4	" " " (Pl. XI, 2.)
	12 x 12	3	" " "

TABLE NO. IV.—THE HOLY EUCHARIST—continued.

	Dimensions of the sculpture.	Number of figures.	REMARKS.
	Ins.	No.	
Little Walsingham, St. Mary and All Saints.	12 x 10	4	See <i>Arch. Jour.</i> , LIX, 49.
Loddon, Holy Trinity	9 x 8	3?	" " "
Marsham, All Saints	10 x 10	5	" " "
Martham, St. Mary	13 x 11	5	" " "
Norwich Cathedral, St. Luke's Chapel.	10 x 8	5?	" " LIX, 50.
Sail, Sts. Peter and Paul	12 x 10	3	" " "
Sloley, St. Bartholomew	12 x 11	5	" " "
Upton, St. Margaret	...	5	The Holy Eucharist is depicted by a bishop in eucharistic vestments holding his crozier in his left hand and is supported on his right and left by two angels each holding a candlestick. The wings of the angels are carved in graceful lines. A priest holds the missal and another priest the chalice and pyx. These figures stand round the octagonal base under exquisitely carved canopies, with three other effigies representing Baptism. The date of the font is 1380. (Pl. XII, 2; XIII, 1.)
Walsoken, All Saints	10 x 12	5	See <i>Arch. Jour.</i> , LIX, 50.
West Lynn, St. Peter	9 x 9	4	" " "
SOMERSET.			
Nettlecombe, St. Mary	11 x 11	3	" " "

SUFFOLK.

Badingham, St. John the Baptist.	11 x 11	8	" "	" "
Blythburgh, Holy Trinity	8 x 12	?	" "	" "
Cratfield, St. Mary	11 x 12	?	" "	" "
Gorleston, St. Andrew	15 x 11½	3	" "	" "
Great Glemham, All Saints	11 x 10	4	" "	(Pl. XII, 1.)
Laxfield, All Saints	10 x 10	5	" "	" "
Melton, St. Andrew	8 x 11	3	" "	" "
Southwold, St. Edmund	10 x 10	?	" "	" "
Sutton, All Saints	....	8	" "	" "
Tuddenham, St. Martin	....	8	" "	" "
Weethall, St. Andrew	11 x 10	3	" "	" "
Weston, St. Peter	8 x 9	3	" "	" "
Woodbridge, St. Mary	10½ x 10½	4	" "	" "

THE NEW FOREST: ITS AFFORESTATION, ANCIENT AREA,
AND LAW IN THE TIME OF THE CONQUEROR AND
HIS SUCCESSORS. DID WILLIAM I. DEVASTATE THE
NEW FOREST DISTRICT AND DESTROY CHURCHES
THERE, AND HAD IT BEEN PREVIOUSLY AFFORESTED
AS RELATED BY THE EARLY CHRONICLERS?¹

By W. J. C. MOENS, F.S.A.

An important treatise on forest law in the Harleian MSS.,² of about the last quarter of the sixteenth century, gives that it is stated in the Book of Laws of Edward the Confessor that forest laws in England were according to the will and pleasure of the King, and it was declared in the King's Charter that amongst other things (in the modernized words of the King) "I will that every man shall have hunting in his woods, lands, and demesnes and shall abstain from my hunting wherever I will to have a park, on pain of death."

These laws of King Edward, considered the very root and origin of all the laws of England, were confirmed by the Conqueror and his successors William Rufus and Henry I., as appears by the latter's Charter to be found in the Red Book of the Exchequer. The non-observance of these laws by the Crown in the districts surrounding the royal forests, particularly the New Forest, was no doubt the ground of the denunciations of King William I. by the early annalists on account of afforesting the possessions of his subjects.

It was ever recognized that forest law was different from the common law of the realm; "it was not absolute justice, but justice according to the law of the forest."³ These first laws of the forest were enlarged by Henry I., and the laws of Edward the Confessor were confirmed by Stephen and Henry II.,⁴ who also made new forest laws. By the Statute of 23 Henry II., cap. 16, as another

¹ Read at the Southampton Meeting of the Institute, July, 1902.

² No. 1330, fo. 102.

³ Harl. MSS. 1330.

⁴ *Stat. of the Realm*, I, p. 4, and 23 Henry II., ch. 16, *Assize of the Forest*, as quoted in Harl. MSS. 1330, fo. 104.

unknown writer states, forest law was freshly enacted. The King alone was arbiter in forest offences as to life or fine, not according to absolute justice (common law) but according to forest law, for the *penetralia* of kings are in forests, and their greatest delight, where they take their recreation ; this is the spirit of the old statutes.

In these reigns and in those of Richard I. and John, the Kings enlarged forests at their will and mostly from the lands of their subjects, whether woodlands or pasture.

Although the New Forest (with the exception of that of Hampton, afforested by Henry VIII. in 1539) is the only one of the former sixty-six royal forests concerning the formation of which we have any authentic particulars, yet the history of it has in modern times been involved in doubts and difficulties. There is reason to believe from actual conditions that forest law was more stringently carried out there than in the other forests. Within the last century or so, several historians and others, who have written learnedly and strongly, have attempted to set aside and have discredited the evidence of very many early chroniclers, the more serious of these modern writers relying chiefly on the details of the Domesday Survey, and the conditions of the other and earlier created forests, and also of the area of the New Forest according to the present perambulation, which is considered to be the same as that run in the year 1300.¹ The Domesday record considered alone would hardly prove these contentions. They are two in number. First, that there was not a previous forest where the New Forest was established, and secondly, that the district was not devastated and that many churches, from twenty-two to sixty in number, were not destroyed or wasted as asserted by the old chroniclers, some giving the former number and others the latter. It is probable that these churches were built of wood, as we know from the Wallop entry in Domesday Survey that buildings in this district were thus constructed, "*habebat olim praepositus . . . silvas ad faciendas domos.*" Disused for a time, they would soon be ruined and disappear.

¹ Fifth report of Commissioners, Woods and Forests, 1789, p. 4.

As did some of those early annalists copy from their predecessors, so have late and especially local writers done the same, taking their ideas from each other when endeavouring to show that the annalists were altogether incorrect.

It must be remembered, however, that Sir Henry Ellis¹ held that William added some 17,000 acres to a former forest; Sir Francis Palgrave² was ready to believe that what the chroniclers wrote was correct, and Professor Freeman³ adopted the views of the early writers, while he considered the Domesday details. Lately, Mr. F. Baring has written learnedly and exhaustively on the Domesday details, apparently adopting the same views.⁴

On the other side Gough,⁵ Richard Warner,⁶ Wise,⁷ and Mr. J. H. Round,⁸ are positive on the subject and think alike.

Regarding this controversy it will be useful to refer to some Domesday evidence, apparently not yet considered, as to the district, in which the New Forest is, having been a forest anterior to the Conquest. Under the heading (fo. 38b) of "the King's land" in Brocton (now Thorngate) Hundred, we find, using Round's translation :

"The King himself holds Wallope (Over Wallop), Countess Gueda (Gytha, wife of Earl Godwin), held it of Earl Godwin. It then paid geld for 22 hides, now for nothing. . . . To this manor belonged, in the time of King Edward, the third penny of six hundreds; it had also free right of pasture and pannage in all the woods belonging to those six hundreds. . . .

"The King himself holds another Wallope (Nether Wallop). Earl Harold held it. It then paid geld for 17 hides. . . .

"The King himself holds Brestone (Broughton). King Edward held it in demesne. . . . What belongs to this manor was worth T.R.E. and afterwards 76 pounds 16 shillings and 8 pence. (It is) worth 66 pounds: yet it is farmed for 104 pounds 12 shillings and 2 pence. . . . In the same hundred is Dene (Dean) which appertains to this manor (? Broughton or Wallop). . . . Belonging to (de) this manor, the King has in Wallope 5 villeins, 1 serf and a mill worth 30 pence and 2 ploughs in (the) demesne; and the coliberts or boors (bures) as above render the accustomed duties.

¹ *Introduction to Domesday* (1833), I, 105-110.

² *England and Normandy*, I, 105-110.

³ *Hist. of Norman Conquest*, IV, 611-615.

⁴ *Engl. Hist. Review*, July, 1901.

⁵ *Camden's Brit.*, I, 129.

⁶ *Topographical Remarks on S.W. Portions of Hampshire*, I, Part 2, 37-57.

⁷ *Hist. and Scenery of the New Forest*, 31.

⁸ *Vict. Hist. of Hampshire (Domesday Survey)*, I, 413.

"Formerly the reeve had the honey and pasture (*i.e.* query, in the six hundreds) belonging to the above manors towards (paying) his 'farm' and also timber for house-building. But now the Foresters enjoy this and the reeves nothing (of it). *The honey and pasture in the King's forest are worth 10 shillings each.*"

This Domesday evidence of the conditions of this district in Saxon times, before its afforestation by the Conqueror, is of the highest value regarding there being a previous forest.

Not being entered under "In the New Forest and round about it," it may be possible that the facts disclosed have escaped notice. What is their import? That by succession through the Conquest, for Earl Godwin's estates had gone to the Crown, William owned in demesne these large manors, situated almost immediately on the north of the six hundreds in which the former owner, Godwin as Earl, in the time of King Edward, had the third penny of their Courts and also the pasture and pannage in all the woods of those six hundreds and these before the afforestation in 1079. Apparently the latter were forestal rights in the six hundreds, and it is especially added "*the honey and pasture in the King's forest are worth ten shillings each.*" It is probable that other manors not belonging to the Crown had commons of pasture and pannage in the six hundreds, not detailed in the abstracted survey as we have it, similar to those appertaining to the King's demesnes, and that these rights were *appendant pur cause de vicinage*.

It is necessary to consider what is the import of the term "the six hundreds." Was not this an especial district over which the King had great influence, very free from Church control, for we find that all the Church lands in this district were only two hides in Fawley (seven virgates of which were in the forest) owned by the Bishop of Winchester, and one hide in Sway owned by the Abbey of Romsey? The King was also in receipt of all the three pennies, *i.e.* the whole fees and fines of the hundred courts, and also owned in demesne a very great proportion of the larger manors in the district where he made the New Forest.

With regard to the term "the six hundreds," we find another somewhat similar district in the survey of

Hampshire, concerning which Mr. Round remarks in the *Victorian History* (p. 401) on the return of the sworn inquest of June, 1274, in which the jurors stated that five hundreds "were wont to belong to the manor of Basingstoke," and he adds to the effect that the *firma* comprised the profits of six hundreds, adding that of Basingstoke itself.¹

As at Basingstoke, we find the jurisdiction and rights of "the six hundreds" belonging to the King's manor of Wallop. The rights of pasture and pannage could not have been exercised in the woods of other owners, so that the Wallop district must have been an especial one (query, forest), with owners in it of intermediate lands, whose possessions we find to have been so uncereemoniously dealt with by the King to make the New Forest as shown by the Domesday Survey.

These conclusions, if accepted, make it easy to believe that the statements of the annalists are correct, viz. that there was an enlargement of a former forest.²

It is very interesting and instructive to find that in the Domesday Survey the heading of "In the New Forest and round about it" covers the lands and manors of six hundreds named, in which the foresters, who were the chief officials of the forest, had the pasture, etc. This continued to be the case.³

These "six hundreds" would be Roderige or Roderic, Bovre, Rodbrigge, Egiete, Rincvede, and, following Round's conclusion in the case of Basingstoke, Brocton, in which was Wallop. If not Brocton, Sirlei would be the sixth, which, however, was not included under the heading "In the New Forest, etc.," but had forest land within it.

In Sirlei hundred we find Weringtone or Winton, owned by Waleran the hunter, one and a half hides and the woodland of which were in the King's forest. The important manor of Avere (Avon) was also in this hundred, of which the "King has now in the

¹ Bagent and Millard, in their *Hist. of Basingstoke*, 173 and seq., give the report of this inquest in full.

² William of Jumièges, quoted by Baring and others, "*Multas villas et ecclesias propter eandem forestam amplificandam in circuitu ipsius destruxerat.*"

³ Pipe Roll, 5 Henry II. (1158-9), when the New Forest had been very much enlarged, and the Exchequer receipts show that Walter Waleran (the huntsman) rendered account of 25s. of the old pasture of the New Forest and £25 of the census of the same.

forest one and a half hides and half a virgate of this manor and half the woodland worth forty-five swine."

It was without doubt these "six hundreds," with the adjoining manors, which formally were afforested by William as the New Forest. It seems improbable that the Wallop manors would have been excluded from the King's favourite hunting place. It is on record that complaints were made by succeeding Kings, Henry III., Edward I., and Edward II., that the Justices and others acting under the provisions of the Charter of the forest and the subsequent commissions had excluded Crown demesne lands from the perambulation of the forest,¹ this being considered outside their powers. The details of some of these disafforestations are closely given by Mr. Turner.²

Sovereigns had always in early times the prerogative to afforest any man's manors or woods; Clause 47 of *Magna Charta* (17 John) provided as a concession that all forests made in his time should be disafforested, but the proceedings in his successors' reigns show that this often had not been carried out.

It appears that William I. held in demesne very little land within the area of the present perambulation of the forest—Ivare (Eyeworth), one virgate; Lyndhurst, two hides; Slacham (perhaps, not identified), one half a hide, and part of Rincevede (Ringwood) and part of Staneude (Stanwood), a very small portion of the present 92,395 acres; but surrounding and outside the modern bounds the King had many manors covering large areas, as may be seen in the Domesday Survey. It is probable that the words "*in foresta*" signify that the lands so specified were made open waste, a forest term used to this day and always meaning in a forest district unenclosed forest land subject to rights of common. Once waste and in the forest, they could not be dealt with except by grant and licence from the Crown.

The Survey shows clearly the very large amounts of lands and manors owned by the King in succession by conquest from King Harold—portions only of which were up to the time of the Survey thrown "*in foresta*," the remainder being occupied and partly cultivated as

¹ Turner's *Pleas of the Forest*, xcix-cvi.

² Vide *Select Pleas of the Forest*, Selden Soc. Publ., xciii-cix.

detailed. When the forest was extended by the succeeding Kings up to the time of the Great Charter of the forest, forest law would govern the areas successively thrown into the forest, which must have been the cause of the grievous complaints related by the annalists, allayed in part only by the perambulations restricting the forest area through the action of the various commissions under the provisions of the Charter of the forest.

The early writers who give the accounts of the wide devastation, *i.e.* afforesting and laying waste churches, were Gulielmus Gemeticensis (died 1135), Orderic Vitalis (1075–1150); Florence of Worcester, who wrote to the year 1118, another monk continuing his chronicle to 1163; William Mapes, *temp.* Henry I.; John of Salisbury, 1110–1182; William of Malmesbury (Henry I., Stephen, and Henry II.); Henry of Huntingdon (Stephen and Henry II.); Roger de Houeden (Henry III.); Walter Hemingford (Henry III.); Brompton (Edward III.); Henry Knyghton (Richard II.); Mathew Paris (thirteenth century), who, writing concerning forest law, stated, "Dreadful are the distresses of that land, whose monarch is the careful preserver of noxious animals"¹; Thomas Rudborne (died 1442); and John Roffe (died 1491).

These all wrote more or less concerning the pitiable state of affairs occasioned by the afforestation of the New Forest, all of whose writings were well studied and quoted by Warner,² who disbelieved them all. He, however, appears not to have studied or even to have thought of what was the enlarged area of the forest and of the workings of forest law up to the time of Henry III. The prerogative of afforesting other men's lands was largely exercised by Henry II., Richard I., and John. John Manwood, the learned writer on law of the sixteenth century, in his *Laws of the Forest* states in the preface :

"The law of afforesting the lands and inheritance of other men did then so daily increase that the same was thought a very extreme heavy burden as well unto noblemen and gentlemen as also unto the

¹ Quoted by Warner, Vol. II, p. 201.

² *Topographical Remarks*, I, 168–176.

poor comonalty . . . for these three Kings had then newly afforested so much of the lands of their subjects that the greatest part of this realme was then become forest."

It is now necessary to go to other sources to learn more about the conditions of a forest in the time of the early Norman Kings (which the modern writers have apparently disregarded, relying on Domesday alone) and which were the cause of forcing from Henry III. the Charter of the forest, the provisions of which reveal the position of landowners in forests from Saxon times to the year 1217, the date of the Charter. Articles concerning forests similar to those of this Charter were obtained from John in 1216, but he dying very soon after, forest matters were left until his successor Henry III. (then only ten years of age) agreed to concede what was necessary for those owning and occupying lands in forests.

In this King's first great Charter, 12 November, 1216, one clause relieved in some respects those living outside a forest from being subject to its laws, but in the first Charter of the forest, granted 6th November, 1217 (i) all lands except the Crown demesne lands, afforested by Henry II., were to be forthwith disafforested after view; (iii) all woods, except Crown demesne woods, afforested by King Richard and King John, were to be disafforested without view.

Even archbishops, bishops, abbots, priors, earls, barons and knights (to say nothing of their tenants), had been unable within the forest bounds to cut their own woods, build houses, erect mills, cultivate or enclose their lands. Any who had done these things contrary to law before then were (iv) to be discharged for purprestures, wastes, and assarts (that is building, cutting wood and enclosing for cultivation), but in the future they shall still answer for the same if done without the King's licence. What a state of things, before the Charter of the forest! From this time by such warrants it was possible to make use of lands owned or leased by subjects within a forest, and in and from this reign licences by Charter to assart lands in forests are to be found in the records.

Previously all had to remain *foresta*, wild and un-

cultivated, enjoyed only by the deer and other beasts of the forest, and, we must presume, commoners' cattle, for some ancient demesne lands were within forests. (vi) Lawing of dogs (which would not pass through a stirrup or a thong of certain dimensions) within a forest (*i.e.* the removal of three claws of the fore feet) to be only done once in three years, and that by the view only of lawful men. Only three shillings (then a large sum) were to be taken of the owner whose dogs were found not expeditated, and not, as before, "one's ox for the lawing." (vii) No forester to take, for the future, from those within a forest, corn, lambs, or swine, or make ale skots (as they had previously done at their will, to the impoverishing of those living in forests), and no "gathering" (query, of forest dues) was to be made by them without the view and oath of twelve regarders.

All landowners (formerly termed free tenants in the forest) had to attend to pay their homage at Swainmote Courts under a heavy fine (£5 in later days) for non-attendance, but by Clause viii these courts were not to be held in the future more than three times in the year, and the Courts of Attachment only every forty days.

Men in forests could not previously agist their own woods (that is, pasture their cattle) or overst their swine, but after this Charter (ix) they could do so at their pleasure and have their pannage, and as a further privilege the swine of a freeman might remain one night (query, when being driven) in the King's forest without pain. Previously to this Charter, a man was liable to loss of life or limb for taking deer or any wild animal or bird in a forest. The relief of this by Clause x was, that he was only to be grievously fined, and if unable to pay, when convicted at the Swainmote Court and having received sentence at the justice seat by the Chief Justice in Eyre, was imprisoned for a year and a day, and on release, if unable to find sureties, he should abjure the realm. Clause xii gave leave for a freeman without danger to erect a mill on his own land in a forest, to make a warren, pond, marl pit, or ditch (*i.e.* to enclose his land) or turn it into arable. (xiii) He might take eyries of hawks, falcons, etc. and also honey in his own woods. (xiv) No forester, unless a forester in fee (having a

bailiwick), shall take cheminage, that is, a toll on the highways for carts and horses laden, and those privileged to do so only to take small sums. Men carrying wood, bark, or charcoal on their own backs were to be free from toll. (xv) All persons outlawed for forest offences since the time of Henry II. were to be pardoned freely, but they had to find sureties that they would not commit trespasses in forests. (xvi) No one but foresters in fee were to make attachments for vert or venison, and offenders were to be presented to verderers only—"And these liberties we have granted to all men."

What a condition does this reveal for men living within or near to a forest before the year 1217, when all "these liberties" were forest offences! Forests then were meant to be, and were, harbours for wild beasts, not men, and offences were created in forests to cause them to be virtually uninhabitable, "*quia in Forrestis penetrabilia Regum sunt et eorum maxime delicie*."¹ If owners could not use their lands for natural purposes, in what position would the tenants and serfs be. After the time of the Domesday Survey the conditions of afforested districts appear to have altered considerably for the worse, and afforestation before the year 1217 meant laying waste for the encouragement and breeding of wild beasts of the forest, the hunting of which was the greatest pleasure of the King. What room was there for inhabitants, and what use for churches and dwellings?

There were but few variations between the first and the second Forest Charter of 9 Henry III. (11th February, 1224-5) which greatly ameliorated the condition of things in forests.

In 1225 the second Charter was at once carried into effect by letters patent of 16th February, 1224-5,² to Hugh de Neville, Brian de l'Isle, and Henry of Cerne, who were appointed justices to make perambulations of the forests of Hampshire and fourteen other counties, but after report made the King's orders were to be taken before any relief to those affected was given. These perambulations extended to the old forests only, many of these

¹ Harl. MSS. 1330, pap. 104.

² Patent Roll, Henry III., 32a, mm.

6 and 5 verso, quoted by Turner in his *Select Pleas of the Forest*, xcviil.

being then disafforested, and the lands in them were built upon and cultivated by the owners and their tenants,¹ while all the newly made forests remained as they were until after the death of Henry III.

On 8th February, 1227, Henry III. sent directions to the Sheriff of Hampshire "to cause the persons who made the late perambulations of the forests there to come before him to show why they had disafforested certain parts of the forests which had been afforested before the coronation of Henry II. (1154) and why they had disafforested certain of his demesne lands and woods."² The King, however, "neither repudiated the Charter of the forest nor annulled the perambulations which had been made in his infancy. He merely corrected them after due inquiry." This related to the Hampshire forests, but the enrolment of these perambulations has not yet been found.³

Although Edward I. did not formally confirm the Charter of Henry III. until the twenty-eighth year of his reign (1299-1300) by 28 Edward I., cap. 3, he appointed commissioners in 1279, who at once made the perambulation of the New Forest and greatly reduced its area by new metes and bounds. This perambulation was presented at the Forest Justice Seat held at Winchester on the morrow of St. Hilary (12th January), 1279-80 (8 Edward I.), before Roger de Clifford, John Lovetot, Galfridus de Pycheford, and William de Hameltone, the forest justices to hear the same. These proceedings⁴ give as boundaries of the New Forest at that date the river Test and Southampton Water to the sea, thence to Hurst (following the Solent), thence to Christchurch bridge, up the river Avon, and thence by a foss extending from North Charford to Herdeberwe and Ower bridge. The commissioners in this case also appear to have gone beyond their powers under the Forest Charter and to have disafforested large areas of the Domesday forest in the west, north, and east of the new metes and bounds.

¹ Thomson's *Great Charters*, p. 344, and Turner, xcvii.

² Turner, xcix, quoting Close Rolls, II, 206.

³ Turner, quoting Close Roll (Henry III.), 38, m. 9d.

⁴ South'ton, *Forest Pleas*, No. IV, m. 1d, and given fully in the Fifth Report of the Land Revenue Commissioners of 1786, App. II, and also by Lewis, *New Forest*, p. 173.

About twenty-one years later the necessities of Edward I., assuaged by a grant of a fifteenth, caused the King to appoint justices by letters patent, 23rd September, 1299,¹ to make perambulations of all forests, and again, on 1st April, 1300, the King directed the same to be done. There were six Commissioners (each for a group of counties, Hampshire and Wiltshire being worked together under one of these²); John de Berewyke, and others to assist him, acted for Hampshire, who by a view of John de Romesy, the Deputy Chief Justice (in Eyre), John Randolph, warden, and Gilbert de Teye, John de Cauz and William de Butteshorn, verderers, made the new perambulation of the New Forest.³

By the finding of the jurors large tracts of land which had been forest for one hundred and fifty years (and probably more in many cases) were thrown out of the forest and disafforested, they alleging that these had been afforested by Henry II. or his sons Richard and John; this "they declared that they knew from the tales of their ancestors and the common talk of the country."⁴

This action still more reduced the area of the New Forest and confined it to the metes and bounds, which, as far as can be traced, appear to have been those which were followed in the perambulation of 22 Charles II. (1670), and which are those of the present day as defined and run by the encroachment commissioners of 1801.⁵

On 14th February, 1301, Edward I. again confirmed the Charter of the forest and issued letters patent disafforesting all districts which were outside boundaries of forests as found by the recent perambulations.⁶ This disafforestation of the outlying districts appears to have given trouble to those who, by living within the thrown-out areas, lost probably most of what they had to depend on, namely, common of pasture and pannage within the large forest area, cultivation of the former and thrown-out

¹ Pat. Rolls, 28 Edward I., m. 18.

² Turner, *civ*, quoting Pat. Roll 118, m. 9; *ibid.*, 119, m. 19, Parl. writs, I, 397; *For. Proc. Anc. Chanc.*, No. 102.

³ Rot. Peramb. Foresta, 29 Edward I., m. 4, given verbatim in Fifth Report, Land Revenue Commissioners, 1786, App. III, p. 47; also Lewis, translation, 174.

⁴ Turner, *civ* and *cv*, and page 121.

⁵ *Idem* Blue Book, 8vo, Proceedings of the 1801 Commission, 1853; the Fifth Report of the Land Revenue Commissioners, 1786, app. 4; and Lewis, p. 178.

⁶ Turner, *cv*, quoting *For. Proc. Anc. Chanc.*, No. 102.

forest lands being precarious at first. Difficulties were also raised by the Crown and the forest officials, who kept the inhabitants of the disafforested lands under forest law as before. Although the King had reconfirmed the Charter of the forest and also the new perambulations, he considered that his rights were infringed on, and Pope Clement V., on application of Edward I., by a bull dated 29th December, 1305, revoked and annulled the above confirmations, which was followed by the King annulling his own grants.¹

The King very soon obtained support for this action from his Parliament, probably as the result of the Pope's intervention, as he appears to have desired to prevent any increase of population in the disafforested districts near the forests. The charge of the Earl of Holland at the Waltham Iter in 1634 shows how objectionable in a forest point of view this was.

"The forest lawe giues notes vpon the purprestures that come (? cause) building in a forest. First, they are ad terrorem ferarum ; the sight of many houses in a forest scarres the deere. Secondly, they are a superonerationem forest. For houses are to harbor people and people must haue cattaile and these cattell are surchardges of the forest. Thirdly, they are an exilationem foreste. In many houses are kept many dogges, w^{ch} dogges and company exile the deere. Therefore nothing decayes a forest sooner than purprestures."²

The *Ordinatio Forestae* then passed by Parliament in 1305,³ enacted to the effect that those whose woods were disafforested should not have common or other easements in the forest. The words of this statute clearly show the friction that existed :

CLAUSE I.—"Whereas certain people that be put out of the forest for the purview, and by the great men have made request to our Lord the King at this parliament that they might be acquitted of their charge and of things that the foresters demand of them as they were wont to be."

II.—"The King answered, first, that where he had granted purview that he was pleased that it should stand in like as it was granted, albeit that the thing was sued and demanded in an evil point."

¹ Turner, *cv*, quoting the Bull given in Rymer's *Foedera*, Vol. I, Part 1, p. 978.

² Harleian MSS. 321.

³ 33 Edward I., Stat. 5.

III.—That all lands “that have been of the Crown and returned by way of escheat or otherwise” shall have free chase and warren and be saved and kept to the King’s use and for “all manner of things that pleaseth him.”

IV.—Where purlieu is, the owners “may claim to be quit of the charge of the forests.”

V.—As the King’s beasts cannot have their haunt and repair to the forest lands, that those who were out of the forest shall *not* have common or other easements within the bounds of the forest, but if they would rather be within the forest as before, it would please the King to receive them, and they should have their common, etc. as well as they had before.

Great disturbances and trouble must have immediately arisen; but the old commoners who had thus lost their pasture and pannage appear then to have been all-powerful, as in the following year (1306) another *Ordinatio Forestae*¹ was passed by the Parliament. In the preamble of this statute it is related on the part of the King :

“We have indeed heard from the information of our faithful servants and the frequent cries of the oppressed, whereby we are disturbed with excessive commotion of mind that the People of the said Realm are by the officers of our Forests miserably oppressed, impoverished and troubled with many wrongs, being everywhere molested. For sometimes the accusations of the Forest, and indictments, commonly so called, are made not only by lawful inquests of good men and true of the country preceding them, as justice doth require, but upon the command of one or perhaps two of the Foresters or upon the command of one or perhaps two of the Verderers : who from hatred or otherwise maliciously, that they may extort money from some one, do accuse or indict whom they will ; and thereupon do follow grievous attachments, and the innocent man is punished, who hath incurred no fault or offence at all. Moreover the People is oppressed with the multitude of Foresters and other officers, who not having wherewithal to get their living by other means, must needs live upon the neighbourhood of the forest ; and what is worse they do justify this their way of life in right of their place accordingly by selling and giving away, for such victuals as they want, and in many ways diminishing and suffering to be diminished the wood in their charge or deputed to their charge, and the deer therein being, in successive process of time, they do destroy and annihilate the same to the intolerable damage of us and our heirs. What farther ? It would be difficult to relate separately the losses and grievances which happen in these matters as we have heard them. Being therefore desirous to prevent such oppressions and grievances, which without

¹ 34 Edward I., Stat. 5.

heavy scandal we can no longer suffer to pass with indifference, by all ways and means in our power and to provide with our most diligent endeavour for the peace and tranquillity of the inhabitants of our Realm."¹

This is parliamentary evidence of a period after the liberties "we have granted to all men"; surely what the annalists wrote of a period two hundred years earlier was not too vivid.

Amongst other forest matters it was enacted in 1306 that all those who had had common of pasture in the forests before the perambulation, and that were restrained of common by the effect of it, shall have their pasture hereafter in the forests as freely and largely as before. Trespasses in the forest were to be abated by throwing down the hedges, etc. and filling up the ditches, but there was a saving clause as regarded the King's arrentations,² which he desired to remain according to the assize of the Forest enacted in the time of Henry II.

The provisions of this statute of 1306 were most important and far reaching, as even in the present day their effect is still shown, as regards the rights of common in the New Forest allowed and exercised by those who have preserved them as attached to their lands, owned and occupied in Hampshire, Dorsetshire, and Wiltshire, outside the present metes and bounds of the forest, these being the rights enjoyed as appertaining to these lands before the perambulations of 1279 and 1300 had disafforested them.

It is a very remarkable thing that by some mishap the *Ordinatio Forestae* of 33 Edward I. has been allowed to remain on the statute books, whilst the enabling one of 34 Edward I. was apparently repealed by 6 George IV., cap. 50, sec. 62.

Little more appears to have been done in forest matters during the remaining years of King Edward, who died 7th July, 1307. His son Edward II. did not confirm the Forest Charter, and there is no mention of forests in the Statute of this King's prerogative passed in the (?) seventeenth year of his reign. However, in 1308-9 (9 Edward II.) there were inquisitions concerning the

¹ Stat. of the Realm.

² Vaccaries, of which many were

made by means of enclosures in the New Forest in this reign.

bounds of the New Forest found by the perambulation of 1300, it appearing that this King desired to annul what had been done by his father, alleging that more land had been disafforested than the Kings Henry II., Richard I., and John had afforested.¹ Finally, however, the King granted that these disafforestations, allowed and afterwards revoked, should be valid.

His son Edward III. on his accession in 1327 at once confirmed the Charter of the forest in all points² and granted that the perambulations of the forests made in the time of his grandfather, Edward I., should be as they were then ridden and bounded, and also that every man might take the profits of his woods by the view of the Foresters, without being attached at the forest courts. The King also ordered a confirmatory charter to be made for each shire where the perambulations had taken place.

By the evidence of the claims for forest rights made by the successors in title to the owners of lands disafforested before the year 1300 outside the metes and bounds fixed in this year, which were presented at the New Forest justice seats of 1635 and 1670 and those admitted by the Commissioners under the provisions of the New Forest Act, 1854, it is possible to show what the area of the forest was before the time of Edward I. The originals of these claims of 1635 (149 for manors, etc. without and 95 for those within the forest) and of 1670 (192 without and 111 within) are preserved in the Public Record Office, many of these giving origins of title. Fairly full translations of the 1670 claims were published by the Office of Woods in a blue book of 1853. These were very largely for the disafforested lands, as many owners within the forest appear to have trusted to forest law for their rights and did not in all cases make claims. The settlement of rights of common under the New Forest Act, 1854 (register printed by Office of Woods, 1858), clearly identifies by tithe numbers the lands to which rights are still attached, as allowed by the Commissioners, some of which are not included amongst the claims of 1670.

¹ *Sub-Report of the Commissioners of Woods*, 1850. p. 3, quoting Salmon's

Ant. of Essex, p. 38, and Exch. bund. Inquis., Forest, 9 Edward II.

² 1 Edward III., cap. 1.

Although very many properties have lost, through disuse of the owners and occupiers and by disallowance through non-claiming, the common rights that formerly were attached to them, the evidence afforded by these claims gives exact information of the extent of the New Forest before the year 1300, and explains how it was not only possible but probable that the relations of Walter Mapes, who lived in the reign of Henry II. and was chaplain to that King, and of the other chroniclers were correct. Mapes wrote that the

“Conqueror took away much land from God and men and converted it to the use of wild beasts and the sport of his dogs, for which he demolished (query, laid waste by disuse) thirty-six churches and exterminated (query, forced to leave the district) the inhabitants.”¹

The other annalists give a different number of churches destroyed, which were probably built of wood, in this forest district. Brompton says thirty, and Knyghton twenty-two. Henry de Huntingdon in the time of Stephen and Henry II. wrote “In Sylva quae vocatur ‘Nova Foresta’ ecclesias et villas eradicari, gentem extirpari et a feris fecit inhabitari,” as quoted by Lewis.

In those days writers would not have ventured to state anything against their Sovereign then reigning, but might have dared and did dare to attribute to William the Conqueror, who made this forest *circa* 1079, what his successors had done. The detailed accounts of what forest law was capable show that where this was fully carried out² how impossible it was before the Charter of the forest for the inhabitants to exist without great suffering and pain, and where building houses, tending cattle, and cultivating the land were attachable offences, described by forest law *ad nocumentum ferarum forestae*.

The Domesday Survey was made only about seven years after the afforestation of the New Forest, and the few inhabitants left within its bounds³ would have

¹ Lewis, quoting Leland, *de Script. Brit.*, c. 159.

² It is very probable that this was not strictly done in all forests, but in only those where the early kings took their constant pleasure, the New Forest without doubt.

³ Mr. Baring estimates that William “from these 150 ploughlands [afforested] cleared off the population, amounting to some 500 families, or about 2,000 men, women, and children.”

had but a short experience (and that no doubt mollified at first) of what their condition would be reduced to under the succeeding kings, until the tumults and risings of the barons and great men and the needs of the kings brought about a better state of things in one hundred and fifty to two hundred years' time, but even in this later period we know that very much was to be desired, by the evidence of the preamble of the *Ordinatio Forestae* of 1306.

By the non-holding of forest justice seats for some forty years before 1634 and thirty-six years after this, forest law fell into a certain abeyance, the attachments apparently being remitted to the Court of Exchequer, but even at this former period dwellers in forests were not at ease,

“for yf every owner be suffered to build houses upon his land at his will, will the highways be made streets and the woods turned into gardens and no place of harbor left for the deere.”¹

These purprestures were forest offences by building a house, cottage, barn, etc. or doing anything that was *ad nocumentum ferarum forestae*, a phrase constantly used in presentments at the forest attachment courts.

With regard to Domesday evidence concerning churches in the New Forest, there was in 1086 only one church, that of Brockenhurst, within the present bounds, which, as has been said, were those perambulated in the year 1300. Even the manor of Sway, owned by the Abbey of Romsey, had no chapel then, a very unusual occurrence in a manor owned by a great religious house. Taking the whole forest area as shown by the Survey, we find in it only three churches, Brockenhurst, Fordingbridge and Ringwood, the former an especially favoured manor and the two latter owned by the King, and also two chapels (*ecclesiolae*), Holdenhurst, owned by the King, and Fawley, owned by the Bishop of Winchester. This is all very significant. What had become of other churches or chapels on the lands owned by the laity? Can we find in Domesday Book another such district in Hampshire or even in any of the other numerous forests in England? How can this be accounted for except by devastation?

¹ Hargrave MSS. No. 321, charge of the Chief Justice in Eyre, 1634.

It is remarkable, however, that very soon after the death of William Rufus we do find more churches in the south of the New Forest. In the Charter of Richard de Redvers, senior (who died in 1107), giving liberties, churches, and lands to the Priory of Christchurch Twynam, in his honour of Christchurch, extending from that town to the east of the parish of Boldre, granted to him by Henry I. the following churches within the then forest are named, which apparently, with exception of that of Brockenhurst and Holdenhurst, must have been built by him after the year 1100; the church of Hordull (Hordle) with the chapel of Mulneforde (Milford); the church of Bolra (Boldre) with the chapel of Brockehurst (Brockenhurst); the chapel of Holeherst (Holdenhurst); and the chapel of Soppele (Sopley). This great grant (as yet unfound) of forest lands must have contained especial licence to assart; the lands were fertile and fit for cultivation, being between the present forest and the Solent, to which probably the men with their families, who had been dispossessed in the other afforested lands, flocked, and who would have required church accommodation, the founding of which must have been fostered by the important Priory of Christchurch Twynam which was included in the de Redvers grant.

In an ancient narrative concerning this Priory¹ we find a statement not before alluded to, which confirms those of the annalists, with the exception only of the King, *viz.* that William called Rufus destroyed thirty churches and reduced their churchyards to pasture in the New Forest. This is local evidence, and if correct proves that before the death of this King and after the year 1086 the New Forest area must have been much enlarged and have covered a district where churches existed.

Other portions of the New Forest improved as they gradually became under cultivation, when enclosed from the forest land, for instance the great manor of Beaulieu granted to the abbot by King John, and which even had the privilege of being "without the regard of the forest."

The same amelioration occurred in the portions of the New Forest disafforested in 1279 and 1300, as also at an

¹ Quoted from *Mon. Ang.*, Vol. II, p. 177, by Warner, II, App. p. 36, from Cotton MSS., Tib. D. VI.

early date was the case in the ancient demesne lands of the manors of Brockenhurst, Minstead, and Eling, etc. Then, again, there were the vaccaries, as many as ten of which were enclosed by the Crown as early as the time of Henry III.;¹ these were for thirty cows and one bull each. These, arrented and later granted by the Crown from time to time, became small farm holdings, and now are residential properties much sought after, within the forest. All this, however, was after the times written about by the chroniclers.

The present area within the perambulation of the New Forest, from the figures of the Deputy Surveyor in 1893, are 92,395 acres, of which 44,978 acres are still open unenclosed waste and open lands with timber, etc.; 6,532 open plantations (500 acres since enclosed); 11,138 acres (plus 500 as above) enclosed land for the purpose of planting; 2,089 acres Crown freeholds and copyholds; and 27,658 acres of intermediate enclosed lands and encroachments owned by individuals, all of which, excepting ancient demesne lands, have been enclosed by Crown licence. The coloured map exhibited shows that before the year 1279 the afforested area was considerably more than double the area to which the New Forest was reduced in the year 1300, which area afforded ample scope for the destruction of many churches and chapels.

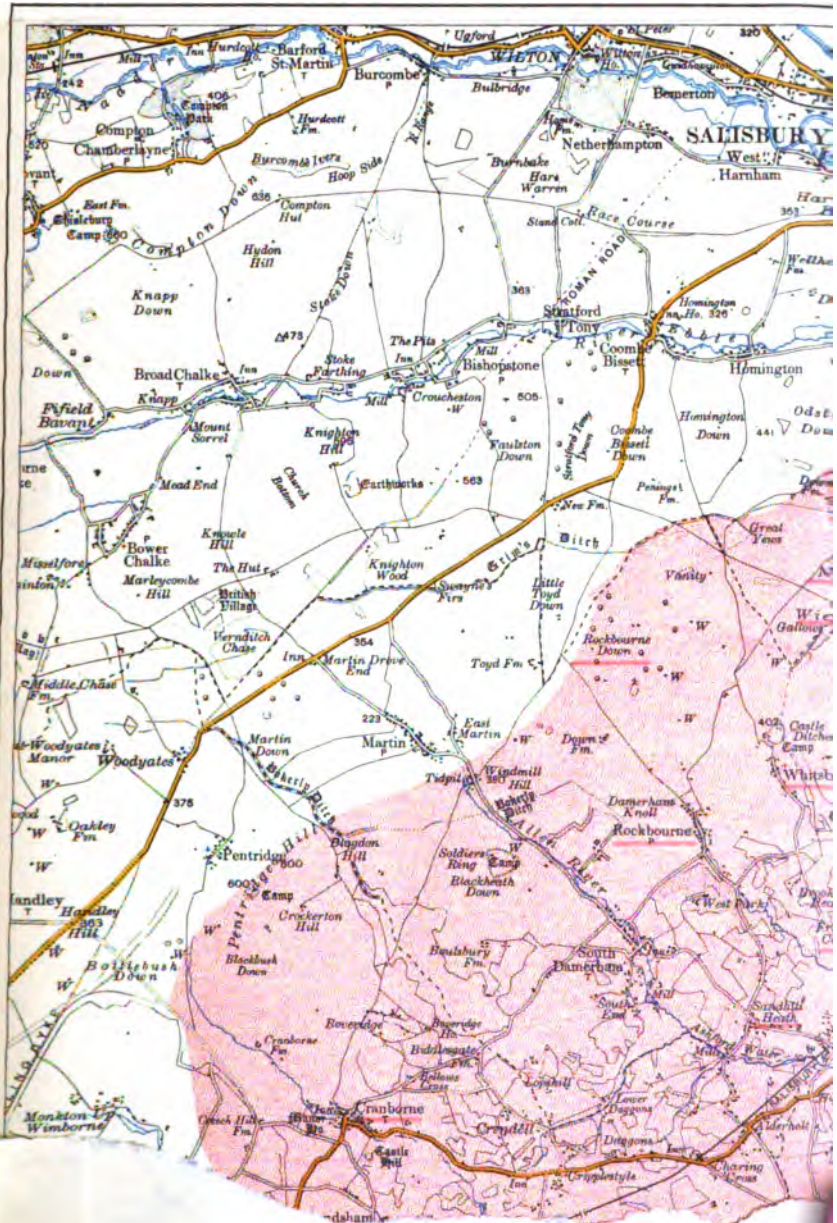
It is very possible that the devastation and laying waste of the New Forest described by the early chroniclers and still so clearly visible at the present day, and which was even more so before the enclosures for planting were made under the provisions of the New Forest Act of 1698 and the Deer Removal Act of 1851, was exceptional and not so ruthlessly carried out in the other ancient afforested districts of England which had been always forest, in many cases from periods previous to Saxon times, and all of which was forest land at the time of the Conquest. On this account the Chroniclers probably especially denounced the devastation caused by making the New Forest as against the laws of God and man.

In no other forest districts are like conditions of open waste found, although the forest laws were formerly the

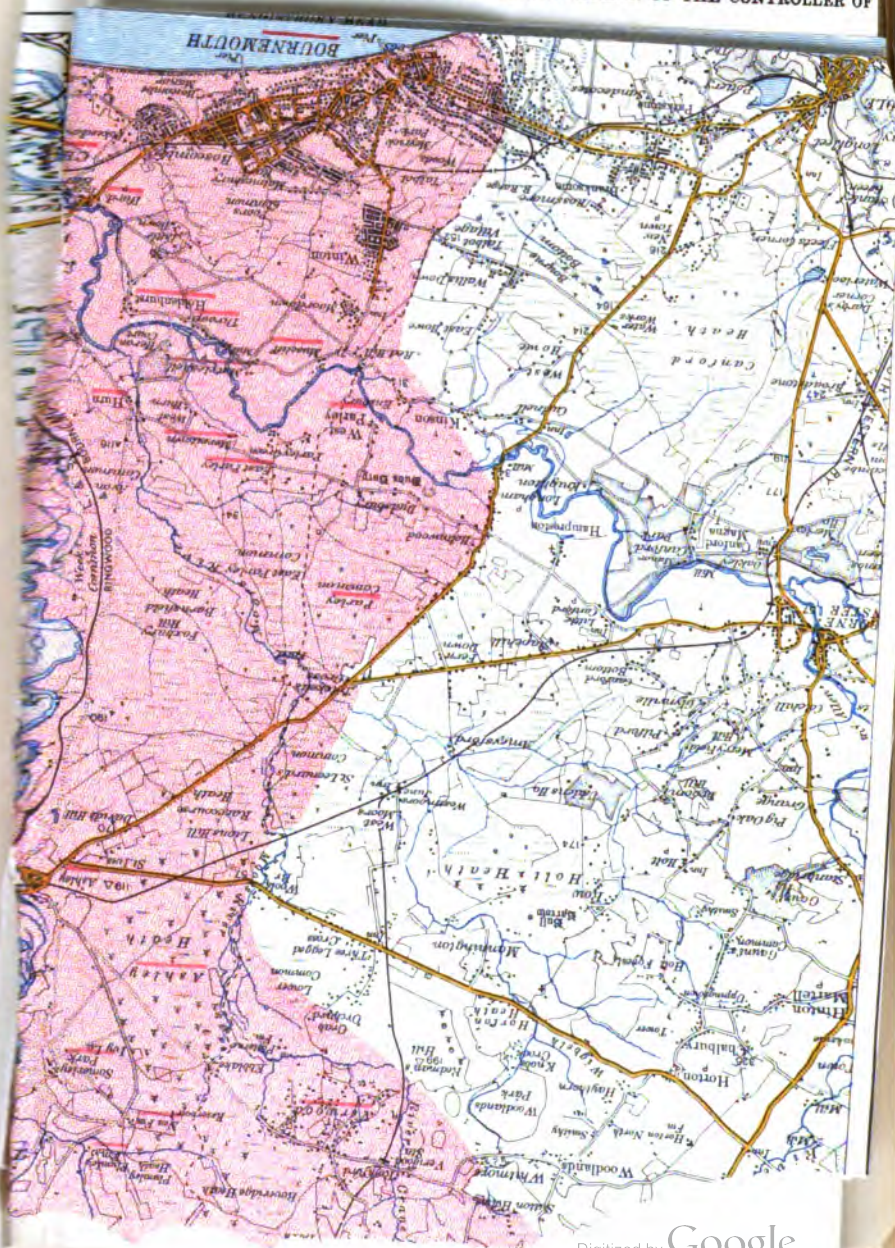
¹ *Attorney-General v. Thomas Goddard*, S.P.D. Charles I., cxxv, 9, referring to Pipe Rolls 39 Henry III.

same for all forests. The explanation may be that as soon as licences to assart portions of forests were granted by the Crown, when the Charter of the forest permitted this, or when districts were disafforested, there was greater amelioration in other places than occurred in the New Forest, where so much has remained waste, and which was a special delight to the early Norman Kings and therefore more likely to remain subject to forest law carried out in an especially severe manner by the Chief Justice in Eyre and the forest officials.

Very different conditions are shown in other forests by Domesday evidence from what is recorded there as regards the New Forest. This is seen in the details of the forest of Essex and those of other counties. Any arguments, therefore, that especial waste and devastation was not made in the New Forest because the Domesday Survey did not show that it took place at the time of and soon after the Conquest can hardly be sustained. On the other hand, the Survey very clearly and exactly does show what was laid waste in the New Forest six hundreds, which at that time had only for seven years been called the New Forest, and which devastation was continued and extended over more than double the present area by succeeding kings.



SHEWING ANCIENT AND MODERN
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Claverley Church. Plan

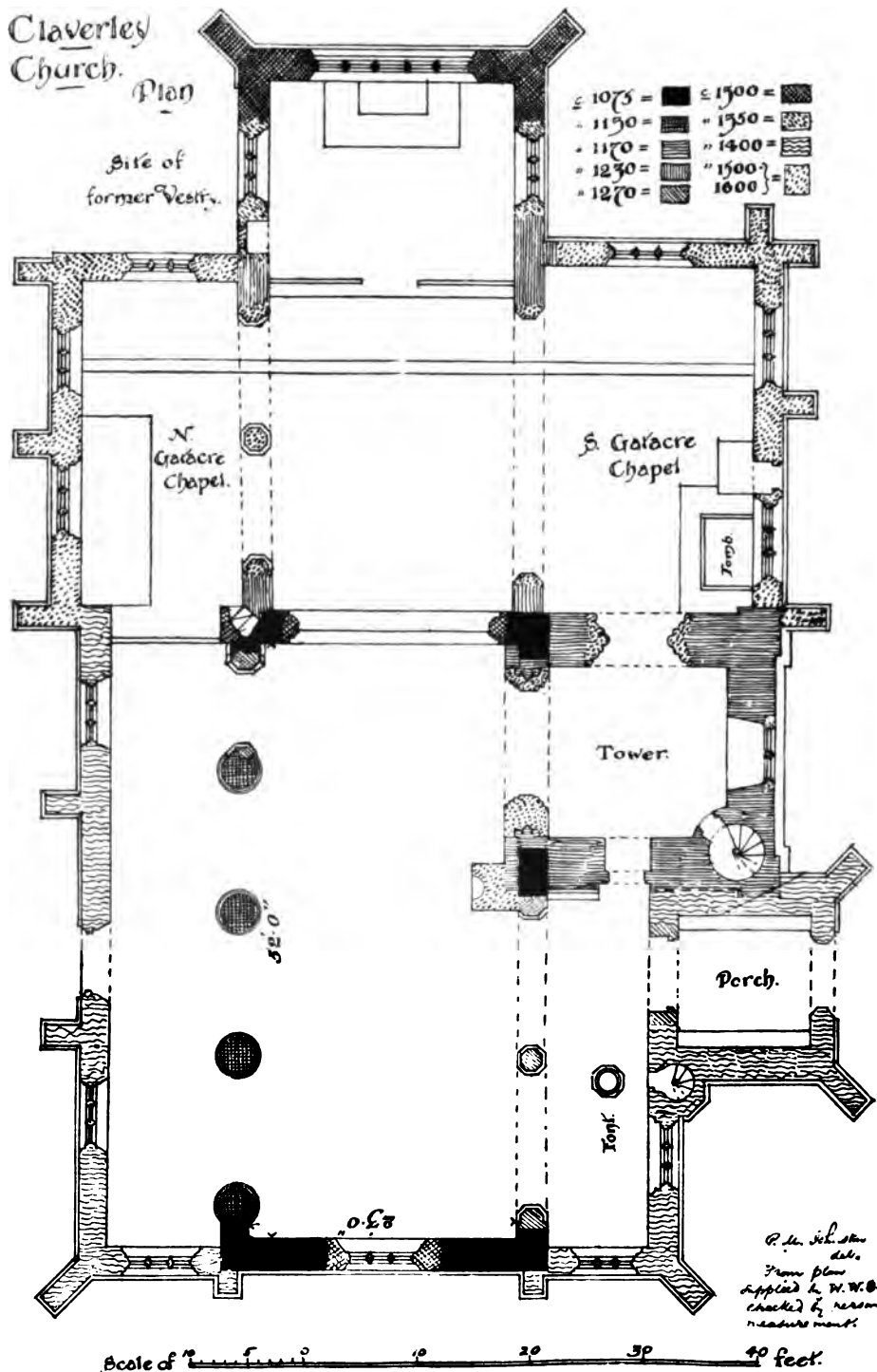


FIG. 1.

CLAVERLEY CHURCH AND ITS WALL-PAINTINGS.

By PHILIP MAINWARING JOHNSTON.

The Church of All Saints, Claverley, somewhat remotely situated, about seven miles eastward of the town of Bridgnorth, Shropshire, is a very interesting building with many noteworthy features. Its claim to the attention of antiquaries has been greatly increased during the last year by the many discoveries made in the course of a restoration conducted on archaeological lines—not least of these the very curious early wall-paintings with which this paper is principally concerned. For the excellent results of this conservative restoration the Building Committee and their architect, Mr. W. Wood Bethell, deserve every praise.

The early history of the church is closely connected with some of these remarkable discoveries. That there was a pre-Conquest church on the present site admits of little doubt; but no structural remains of it can be pointed to with any certainty in the existing building; the foundations of older walls and remains of floor-levels that have been brought to light may be assigned with greater probability to the first Norman church, than to one of earlier date. There is, however, a very singular feature in the nave which may belong to an older building, viz., a platform of rough stones, about 3 feet in thickness. It is the opinion of Mr. Bethell, that this marks the area occupied by the pre-Conquest church.¹ Also a very curious rough-hewn font, discovered in a neighbouring garden, may equally have belonged to that building or to the Early Norman one. The font now in the church is a particularly fine example of the middle Norman period, c. 1130.

¹ But why 3 feet in thickness? The church is elevated on a mound and any such platform seems superfluous. I would suggest that this thick floor represents the *débris* of the Saxon

church, thrown down and roughly levelled. Stone is plentiful locally and so this waste of material would not signify.

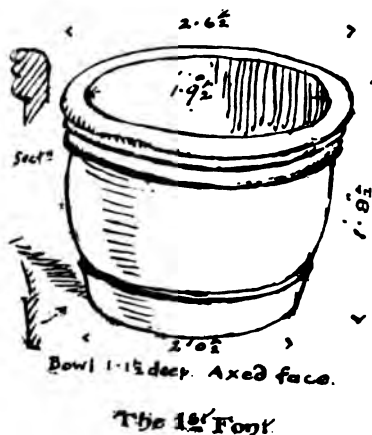


FIG. 2.

We first reach solid ground in the history of the church with the period marked by that *annus mirabilis* 1066. Soon after the Conquest, Earl Roger de Montgomery,¹ one of William's most powerful lieutenants, received as part of his share of the spoils large estates in Shropshire, including Claverley and the immediate neighbourhood, and one of his first acts here, as in his Sussex manors, seems to

have been to build churches and endow religious foundations. In particular, we have the record of the creation and endowment of a college of secular canons, the Dean of the college being the Vicar of Claverley.

"FOUNDATION CHARTER OF QUATFORD.

"July 22 1086.

"In the time of King William, Roger the Earl and Adelaysa the Countess built a church in Quatford in honour of our Lord Jesus Christ and St. Mary Magdalen and all the Saints of GOD. They gave Ardintone, except the land of Walter the smith, and that land which lies between the water and the Mount. . . . Be it known to all that Roger the Earl gave Milinchope in exchange to St. Milberg for the claim which she had in Ardingtone. And further, they gave the Church of Claverley and the land which pertains to it, with all the tithes, and the Church of Alveley, and Bobington, and Laixtonia, and Morville and others, and to serve the Church they established there six Canons. And all these things did the Earl by concession of his sons, who were there present, and on that day did give Burcot as a foundation gift.

Witnesses.

Wolfstan, Bishop of Worcester.

Robert Lesing, Bishop of Hereford.

Robert Lindsey, Bishop of Chester.

"Archdeacons of Hereford, Salop, Stafford, Worcester, 1 Priest, 3 Barons, 3 Monks, Sheriff."²

¹ Domesday says: "Earl Roger holds *Claverlege*." There was a considerable population, and a mill, but no church is mentioned. Claverley was then in Staffordshire.

² Eyton's *Shropshire*. All these place-names can be identified, with the exception, perhaps, of "*Laixtonia*." I would venture the suggestion that it is monkish Latin for Great and Little



FIG. 3.—THE FONT, CLAVERLEY.

There were thus six churches in the chapter, served by six canons, and as we find that the Vicar of Claverley was the Dean, that church, if not the most important, was probably the first to be built, or rebuilt, by Earl Roger. In all likelihood the Norman church was in existence in 1075, or a little earlier.

The following is a skeleton architectural history of Roger's church. To-day it consists of nave, north and south aisles, southern tower and porch, chancel, and north and south chapels. The building is almost entirely constructed of a purplish-red sandstone, very hard and durable, quarried locally.

- c. 1075. The first Norman church built on the site of the primitive pre-Conquest building. Of this church, which consisted of a nave, 52 feet \times 23 feet (occupying the same area as the present), small apsidal chancel, and shallow north and south porches, portions of the walls remain, together with a few lengths of string course of a common Norman section. This string seems to have been used outside as well as inside the walls, probably serving as a sill to the windows and abacus to the chancel arch. The latter, from traces discovered at the restoration, was about 6 feet wide. These early walls, though of considerable height, were only 2 feet 6 inches thick.
- c. 1130. The north wall of the nave was pulled down, excepting a pier at the western end to serve as an abutment and about 10 feet of the eastern end (perhaps retained to shut in a nave altar); and an arcade of three semi-circular arches on lofty cylindrical columns was set up on its foundations. The arches are of two square-edged orders, quite plain, and the capitals and bases of the columns are circular. Their mouldings also are of a comparatively late type, and though the general effect of the work is early, because of its boldness

Leysters—villages in N. Herefordshire, some twenty-five miles south-west of Claverley. The other villages are much nearer, in the counties of Shropshire

and Staffordshire. "St. Milberg" means Much Wenlock Abbey, founded by Earl Roger.

and plain character, there is no doubt that the arcade belongs to the later Norman period. The

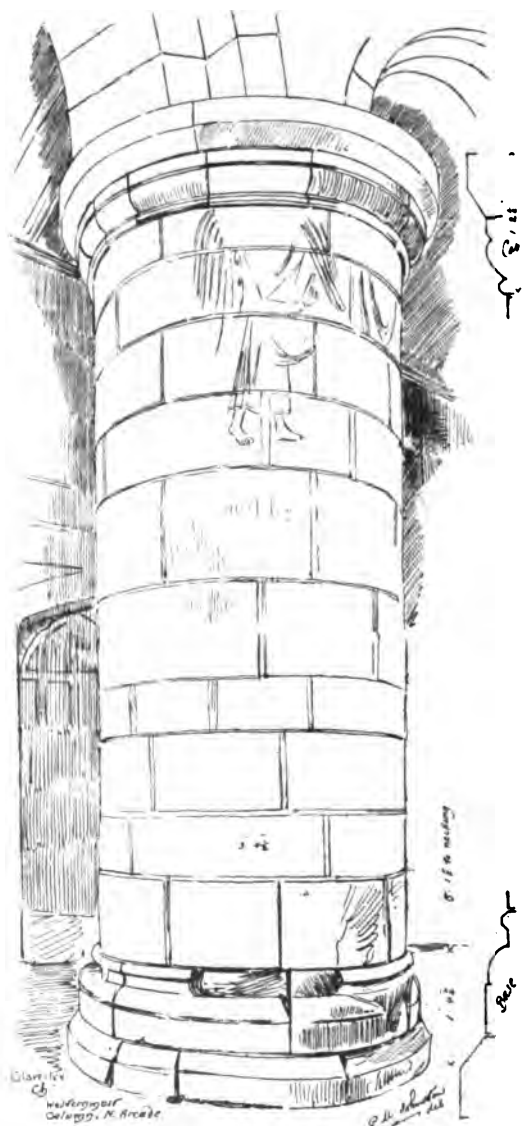


FIG. 4.

general effect of the lofty cylindrical columns and low arches is singularly reminiscent of the

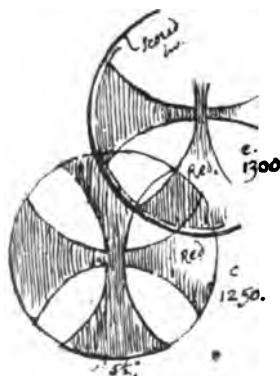
Norman arcades of Gloucester and Tewkesbury. The Grecian ovolo moulding of the capitals is noteworthy. These arches opened into a narrow aisle, but the outer wall of this was pulled down and rebuilt further northward at a later period. One of the window-heads of this Norman aisle (or perhaps one of those lighting Roger's nave) was discovered in the aisle wall. It is a plain circular opening in a square stone, and shows that glazing or shutters were dispensed with, the splay running out to the face, except for a small chamfer.

- c. 1170. A massive tower of two stages about 16 feet \times 15 feet (walls 4 feet 6 inches thick) was erected on the south side of Roger's nave, at its eastern extremity, utilizing a length of the older wall on its northern side, thickened towards the nave for this purpose. A lofty arch, acutely pointed, was pierced in this wall to throw the ground story of the tower into the nave, and there is plain evidence that this extra floor space was used as a chapel. Probably there was a small apse, or more likely a buttress-recess, on the eastern side, to contain the altar. A newel stair was formed in the south-west angle, and a doorway, originally external, in the western wall of this tower. This door has a pointed arch on the inner, and a round one on the outer face. The bold plinth moulding flanking it on its western side was, of course, also external. This tower-chapel was lighted by a large window in the south wall, the outlines of which can be traced, although it has been filled with Decorated tracery at a later period. The upper story, which may also have contained an altar, was lighted by large windows with pointed heads, boldly moulded. These were blocked up in the fourteenth or fifteenth century.
- c. 1270. At about this date the somewhat clumsy narrow pointed arch between the chancel arch and the Norman arcade was pierced; also the short aisle of two bays was added on the south side of the nave, Roger's wall being demolished for the purpose. Part of the west face of the tower thus become

internal. The capitals of this arcade are curiously carved with dragons, or basilisks, gnawing human faces. Possibly, as this aisle was the Baptistry, these have reference to the contending forces of good and evil. The centre pillar and responds, which are of octagonal section, show in their mouldings the transition from Early English to Decorated. The south door within the porch may be of this period, but the windows of the aisle, as of the church generally, are later insertions. Indeed, the walls of this aisle may have been rebuilt, as were those of the north aisle, in the fifteenth century.

- c. 1300. There probably was a chancel of intermediate date between the Early Norman apse and the present spacious and dignified chancel.¹ The date of this latter is clearly marked by the noble geometrical east window and the chancel arch. The tracery of this window is very beautiful. A huge quatrefoil with pointed lobes fills the upper part of the arch, and below are five lights, the centre depressed by the quatrefoil and the others acutely pointed, all cusped; the spandril pieces are also cusped. The tracery bars are very slender and simply chamfered. The gable-coping, buttresses and weatherings are of the same date. The west window of the nave, of non-descript character, may belong to this period. It has plain intersecting tracery of poor design.

¹ Parts of the walls of this earlier thirteenth century chancel remain in all probability. Two consecration crosses, one partly obliterating the other, remain on the north and south walls of the Sacrarium, showing that the chancel was re-consecrated after extension (see Fig. 4A). Four more consecration crosses remain on the west wall of the nave—twelfth or thirteenth, and fifteenth century in date.



Consecration
Crosses in Chancel.

FIG. 4A.

- c. 1350. The side windows of the chancel have very curious tracery of Transitional-Decorated character. They recall those in Bishop Edington's work at Edington Church, Wilts, dated 1352. The sedilia and piscina below that on the south side are plain examples of the same period. The chancel probably contained two other windows on either side to the westward, of the same date and character as the foregoing; remains of their heads are still to be seen in the walls, over the later arches. There was also a vestry of low pitch against the north wall, the door to which is blocked up at present.
- c. 1400 to c. 1600. Later alterations can best be grouped together. They include:—1. The addition of an extra story to the tower, with the massive buttress projecting into the nave. This buttress has in its northern face a curious niche with a cill near the floor, which has all the appearance of a stone seat.¹ 2. The rebuilding of the outer walls of the aisles; the erection of the porch, the heightening of the nave walls by the addition of a clerestory with square-headed windows in pairs, and a flat, heavily moulded and panelled roof with richly carved bosses. Similar roofs were put over the aisles, and the walls of the nave and aisles crowned with battlementing. 3. Late in the fifteenth century the Gatacre chapel on the north side of the chancel was built, and early in the sixteenth century that on the south side—also appropriated to the Gatacre family—was thrown out. These contain an interesting series of sixteenth century monuments belonging to that family, and an elaborate tomb, dated 1558, with effigies, to Sir Robert Broke, Common Serjeant and Recorder of London, and Speaker of the House of Commons, with his two wives, one of them a Gatacre—and seventeen children. This tomb is Renaissance in character and displays very curious details. When the south Gatacre chapel was built an arch was pierced in the east wall of the

¹ P For use by the priest in hearing confessions.

tower to communicate with it, and the twelfth century arch on the north was partly built up and a smaller one of debased character formed within it. 4. Finally, in 1601, as appears by a date on one of the brackets, a fine high pitched roof, of Gothic form but with Renaissance details, was erected over the chancel. There was much woodwork of this period (including a fine pulpit) at one time in the church,¹ as well as earlier screens—some of which has been rescued from later pewing and is being carefully preserved in the restored church. A quantity of fine encaustic



FIG. 5.



FIG. 6.

tiles, found when the older floor levels were reached, have been collected and laid down. One of these bears an extremely spirited design of a griffin, probably the cognizance of a family connected with the church; another, the eucharistic chalice; and a third a curious arrangement of letters, the precise meaning of which has not been satisfactorily elucidated. Probably it is what is known as an "Alphabet" tile. The first and last which are here illustrated (Figs. 5 and 6) are of late thirteenth or early fourteenth century

¹ Also a good deal of early eighteenth century carving, quite Gothic in spirit, all of which has been carefully preserved. The north aisle roof was extensively repaired at this time, and

several dates are on the brackets of the principal timbers, together with the usual initials of vicar and churchwardens.

date; the other is probably fifteenth century. The platform and base of the high altar were also discovered below the pavement.

The foregoing outline may serve to show "the times that passed over" this ancient church, and its growth from the austere plain building, simple in plan, to the diversified and complex structure of to-day. Let us now return to its history.

Earl Roger seems to have been a man of comparatively humane instincts for those wild and stormy times, and Adeliza, his Countess and second wife, was, according to Ordericus Vitalis, "remarkable for her good sense and piety, and frequently used her influence with her husband to befriend the monks and protect the poor." Roger's eldest son Robert de Belesme, on the other hand, was an infamous monster, remarkable even in those days for his cruelty and lawlessness. We are told that he "slew the Welsh like sheep, conquered them, enslaved them, and flayed them with nails of iron." Ordericus Vitalis calls him "more cruel than Nero, Decius, or Diocletian." He it was who abandoned the castle which his father had built at Quatford and built another of great strength, at Bridgnorth, of which he was made Constable.¹ He moved the Collegiate church also from Quatford to Bridgnorth in the year 1102. Soon afterwards he was banished by Henry I. for his share in the conspiracy of Robert, Duke of Normandy. He had replaced the canons in Quatford by monks from La Sauve Majeure.² Although Claverley is not mentioned in the deeds of La Sauve Majeure, gifts to "Catford" (Quatford) are recorded. When Robert de Belesme thus forfeited his estates Claverley came into the King's hands, and was retained as a royal manor. The *Testu de Nevill* says,—"The church of Claverley is in the King's gift; Peter

¹ "Robert de Belesme built a very strong castle at Bridgnorth on the river Severn, transferring the town and people of Quatford to the new fortress." *Ordericus Vitalis*, Vol. III, p. 220 (Bk. 10, chap. 7). There had been an early Saxon castle, but it is said to have been outside the town, on a hill

now called "Pam Pudding Hill," near a village with the significant name of "Oldbury." Earl Roger's castle at Quatford was built in 1085. It is called in Domesday "the New Berg."

² See Mr. Round's *Calendar of Documents preserved in France* (Record Office).

de Orivall holds it ; it is worth forty marcs.”¹ Quatford is described in 1255 as “a member of the Church of Claverley,” and in 1412 as “annexed to the Deanery.” These quotations serve to show that the relative importance of the two places had changed.

In the *Valor Ecclesiasticus* of Henry VIII. (1534-5) Claverley Rectory is appropriated to the Dean of Bridgnorth College, to which place the Quatford foundation, as we have seen, had been removed. It would seem, therefore, that after remaining in the hands of the Crown for a greater or less time the church was restored to Earl Roger’s reconstituted foundation.

Let us now return to the fabric of the church and consider the remarkable early paintings which are the main object of this paper. I have noticed above the painted consecration crosses, of dates from the twelfth to the fifteenth century, found in the chancel and nave. Besides these, paintings of two dates were discovered on either side of the chancel arch. That on the northern side displayed a sort of trellis or “field” of white quatrefoils on a black ground, and slight remains of a figure. This was evidently of a date coeval with the arch (c. 1300). On the other side was found a nude kneeling figure and remains of one or two others, clothed, with text-scrolls and other objects, too fragmentary and indistinct to make out. The latter were probably from their coarse style of execution quite as late as 1400, and appeared to belong to the same date and scheme as a rudely executed series of figures and stencilling around and below the clerestory windows of the nave. These were all done in the poorest manner both technically and artistically.

Far different in merit and archaeological interest was the long strip of painting discovered below these fifteenth century “daubs.”

¹ My friend, Mr. L. F. Salzmann, to whom I owe some of the above quotations from deeds in the Record Office, quotes in connection with this entry the following from the Plea Rolls for 25th Henry III.: “Master P. de Radenor, official of the Bp. of Coventry and Lichfield, & Robt., Chaplain of Patiham” (the modern Pattingham, Staffs., near Claverley) “were sum-

moned to show wherefore, against the King’s prohibition, they suspended the Church of Claverley, which is the King’s free chapel, and sequestered the goods of the same church, and caused the corn of Peter de Rivall, rector of the same church, to be thrashed, to make a contribution to the Pope, to the prejudice of the Crown,” &c.

The great columns of the Norman north arcade showed plain traces of having been decorated, after a fashion, at or soon after the actual date of their erection in *circa* 1130. They had been lime-whited over the dark purplish-red stone, and sham masonry joints in a purer white had been drawn with a wide brush across them at regular intervals. In addition rude figures of angels, very imperfect, in faint red outline with a little yellow tinting,

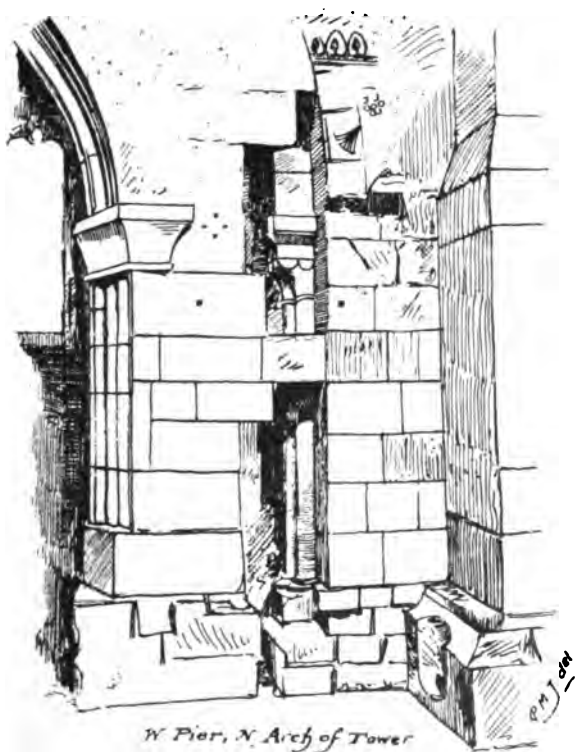


FIG. 7.

are to be seen on the west respond and on the first column from the west (Fig. 4). These also were probably executed soon after the columns were built.

In about 1170 the massive tower-chapel was added to the south side of the nave. The Transitional date of the work is plainly visible from the acutely pointed arch, and also from the elegant clustered shafts with concave

scalloped capitals which have been brought to light in the restoration.¹ Upon and around this arch were found remains of colour decoration, evidently of the same date as the arch itself, including a conventional tree and figures of angels. Also, within the tower-chapel other figures of angels and six-winged seraphim together with scroll-work, "stoning" and general ornamentation were found—all of the same character and date. The colouring was chiefly in dark red, pink and yellow ochre upon a coat of lime-white. All these fragments have been carefully preserved.² I mention these comparatively unimportant remains first, because they lead up to, and help to fix the date of, the very remarkable paintings now to be described.

There is a long strip of blank wall between the fifteenth century clerestory and the crowns of the Norman arches in the north arcade. When the thick coatings of colour-wash had been scaled off in parts it was evident that at least two series of mediaeval paintings lay beneath. The uppermost was very inferior work of the fifteenth century (and wherever this did not conflict with more ancient decoration it has been preserved); but under this the wall was found to be covered with a very elaborate scheme, painted on a thin coat of whitewash upon the rubble stonework of the walls, without any plastering properly so called. Fortunately the actual uncovering was undertaken almost at the outset by a gentleman skilled in such delicate work—Mr. Griffin of Tettenhall, aided by the Misses Wilson, nieces of the Vicar—and every care was taken to bring to light all that remained of the more ancient painting. Subsequently I was requested by the Committee to complete the uncovering, and to apply a preservative treatment, and for this purpose a scaffold was erected, with the aid of which I was enabled to take tracings of nearly the whole of the long strip above the arches and of the paintings on the spandrels between the arches. These tracings were

¹ These shafts and the inner, square-edged order of the arch were quite invisible till recently. Sufficient of the blocking of the sixteenth or seventeenth century arch that was inserted to

strengthen the tower was removed to show them.

² Upon the apex of the inner arch of the Trans-Norman window in the upper stage of the tower (E. wall) angels and scroll work have also been found.

coloured in exact imitation of the originals, and from them the accompanying reductions in *fac-simile* have been made.¹

The principal strip extends, for all practical purposes, from end to end of the nave, excluding some 2 or 3 feet at the eastern end; in other words it is almost exactly 50 feet in length, by about 4 feet 8 inches wide, including the top and bottom borders. These borders are decorated with running scroll patterns, of the type common in late twelfth and early thirteenth century work, the peculiarity being the broad yellow stripes within the red enclosing lines, which give a remarkably rich effect to the design at small cost.² As will be seen at a glance, red and yellow—earth pigments—are the two colours principally employed, but half tones and mixed tints produced from these are also largely used. Below the main strip, and within the spandrils of the arcade, are separate subjects, quite unconnected with that of the strip. They occupy a space almost the same in height. Figures of angels and saints, judges and executioners, seem to have reference to some sacred or legendary subject—probably a martyrology. They are very imperfect. The subject of the main strip is plainly a battle scene. In the 50 feet of length fourteen horses and their riders are depicted (see the accompanying coloured plates); but of the first five only fragments remain, so that the first of the plates is made to commence with the sixth horse and rider, counting from the west. The first impression made upon the spectator is the extraordinary general resemblance which the painting bears to the Bayeux Tapestry—an impression that is strengthened by closer observation and comparison, allowing for the difference

¹ A replica of the tracings has been made on thin cartridge paper in a continuous piece and mounted on a stout roller. This has been deposited with the Vicar, and will no doubt be kept in a safe and accessible place for reference. The cost of this, which was not inconsiderable, has been borne by the Building Committee. It is pleasant to draw attention to their public-spirited action.

² Another peculiarity is a 9 shaped ornament in the scroll-work. This has been called the "hook," or

the "comma." It occurs in more than one fragment of twelfth century colouring that has come under my notice, and, perhaps more than anywhere in the paintings of this period, in Norwich Cathedral. I do not think it continued to be used in scroll-work much later than the first decade of the thirteenth century.

³ I use the popular name for the celebrated piece of needlework for convenience, although the term "tapestry" is incorrect as applied to it.

in the date—about one hundred years—between the two. Next, one is struck by the absolutely *secular* character of the strip. No nimbed saint or angel appears in it—in sharp contrast with the spandrils of the arches below, where nearly every figure represents the one or the other. Another noteworthy point is the use of conventional trees, to separate different parts of the subject, or to serve as a background. There are five or six of these in that section of the strip here reproduced, and probably there were four more in the western part of the painting, some being simple scroll work in red and others of a bushy type in red and yellow, strongly recalling the trees found in illuminations of the latter part of the twelfth century. But perhaps in the manner in which these trees divide the subjects, they most strikingly compare with those in the Bayeux Tapestry.¹

The greatest variety possible is obtained with the few colours at the disposal of the artist; thus, the 1st horse has been a yellow one, the 2nd puce or red, 3rd yellow, 4th white, dappled with green spots, 5th puce, 6th dappled, 7th yellow, 8th dappled, 9th puce, 10th yellow, 11th pink, 12th yellow, 13th dappled, 14th puce. Even the outlines are varied, some being pink, others yellow, red, and even white. Nine horses are going westward, five eastwards, the idea of the artist evidently being to represent a confused battle or *mêlée*. The 2nd and 3rd, 4th and 5th, 6th and 7th, 10th and 11th, are *vis-à-vis* in combat. Nos. 1, 5, and 11 of the knights are being unhorsed by their opponents, while No. 8 is shown stretched dead on the ground, his horse's reins being held apparently by a supernatural hand. At the extreme eastern end of the strip are the remains of what appear to be the walls of a town—possibly intended for military defences.

¹ In the church of St. Jacques-des-Guérêts, Loir-et-Cher, is a fragment of early thirteenth century decoration, the *motif* of which is curiously similar to the Claverley painting. It consists of a row of mounted knights, separated by conventional trees, some mere scroll-work, others having thick stems and masses of foliage. The knights bear shields emblazoned with coats of arms, and lances with pennons in rest; their horses are richly caparisoned. In this

case, however, the picture is a semi-religious one. The leader of the knights is St. George himself, and his companions are crusaders—their names inscribed over them: S: GEORGIVS, HUGO. DE , MATHEVS: etc. They are advancing to the rescue of some Christians who have been imprisoned and maltreated by the infidels. Our Lord is shown appearing in the prison to a captive Christian.

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The armour of the knights deserves close attention, for upon it depends the question of the precise date of the painting. Most conspicuous are the shields. These are a modified form of the kite-shaped shield of the Bayeux Tapestry—a type transitional between those and the “heater” shape of the thirteenth century. Here they are short and squat, with slightly curved top and curved also in section, as may be seen in Nos. 6 and 10.¹ These two bear no device; one is red, the other blue; but the shield of No. 7 has a black fleur-de-lys on its white ground. No. 11 is plain (dark red); No. 12 has an annulet  in red on a puce-coloured field (this is evidently a cognizance, and not a mere umbo); while No. 13 bears a curious object which may represent a flesh-hook, enclosed in a roughly squared figure.

The body armour of the knights is singularly varied. In every case, except perhaps No. 7, what is known as “masclé” or *quilted* armour is worn, but otherwise they present many differences.² Thus, the 2nd, 6th (9th) and 10th have coloured surcoats over their armour, yellow, blue, yellow (?) and red respectively. In the case of the last a sort of peaked hood lies over the neck, and there is a pendant loop-like object to the tail of the surcoat, which I think occurs also in the case of No. 2. Probably it really was a loop, or cord, through which the mailed leg of the warrior was slipped when he was dismounted. In riding they would be removed to give greater freedom. These surcoats, Viollet-le-Duc tells us, were introduced towards the end of the twelfth century. We see them on the seals of Richard I. and John, but not on that of Henry II. The presumption, therefore, is that they came into fashion some time in the long reign of that monarch—1154–1189.

The form of the masclé suits differs. Some are long shirts of mail, coloured white or yellow. The most

¹ The shield of Geoffrey Plantagenet (d. 1154) on his tomb slab of enamel at Le Mans is similarly curved on plan, but longer. Compare also the shields on the first and second Great Seals of Richard I.; but these latter are of a more advanced type.

² Ringed and masclé armour appear side by side in the Bayeux Tapestry. Sometimes a suit of *mixed* is shown on one man, legs and body in one sort and arms in another. This sort of mail is seen on the seal of Milo Fitzwalter (temp. Henry I.); and it continued in use till early in the thirteenth century.

complete suit is that of the gigantic figure—No. 11—falling on his head. He wears a sleeved tunic combined with short breeches of this armour, and his legs are encased in close-fitting “stockings” of the same—all tinted yellow, except, for some reason, the left leg. The right arm, which has been almost obliterated, seems to be bound round with leather thongs—like the “putties” of our South African troops. A bonnet of the mascléd quilting covers the sides and back of the head, and over this is a large flat-topped helmet with a visor. The latter is partly coloured yellow and perforated, while there is a wide slit for the eyes, of square shape, above it. The helmet and sword-blade are tinted green. Nos. 6, 12 and 13, and perhaps No. 1 (who appears also to have been represented falling from his



FIG. 8.—FROM A MS. FORMERLY AT STRASBURG.

horse) seem likewise to have had this flat-topped helmet over their hood of mail. The heads of the other figures are too much injured for one to say with certainty what form of helmet was painted with them, except in the case of No. 7, which is a very curious example. This knight, who is striking at his opponent's head with a sword, has no trace of mascléd armour about him,¹ but wears a short white shirt, his arms and legs being left white also. He has a steel cap of a pointed-arch shape, and beneath this a combination of nasal and cheek-piece, with a hole left for the eye. His foot in the stirrup has a long pointed solleret—meant to be of leather perhaps. In two other cases prick-spurs appear to be represented (Nos. 8 and 11). I give here for comparison (Fig. 8),

¹ The white ground *may* have been yellow which have now disappeared. covered with crossed lines in green or I could find no trace of any, however.

a copy of the late M. Viollet-le-Duc's drawing, taken from an illuminated MS. formerly in the Library of Strasburg,¹ and ascribed by that learned writer to the latter part of the twelfth century. This MS. belonged to the Rhenish school, and the resemblance which the headpieces and armour generally bear to those in the Claverley paintings is too marked to be accidental.² It furnishes another strong piece of evidence as to the date to which I have assigned the paintings, *viz. circa* 1170. The visors with breathing-holes and space cut out for the eye correspond very curiously. The flat-topped helmet, as is well known, was in use in the reign of Richard I. It was, no doubt, a modified form of the tall round-topped steel "bonnet" shown in this illumination. The first seal of that monarch illustrates the latter, the second the former variety.

Nearly all the knights carry lances: No. 11, besides his sword, has a lance, which he has splintered on his opponent's shield,³ while the point of the other's lance has pierced his heart. These lances bear small pennons such as are figured in the Bayeux Tapestry. The saddles are also reminiscent of those in the famous needlework. Some are red and high-cruppered; but that of the 8th horse, whose rider lies on the ground below, is yellow and quilted. Such a quilted saddle is shown in the first seal of Richard I.

A very noticeable point about the painting is the spirited drawing of the horses. Nos. 11, 12 and 13 are especially good. The first of these is extraordinarily like the horse in the bas-relief of St. George at Antioch, over the south door at Fordington Church, Dorset.⁴

Now what is the explanation of this remarkable painting? My first supposition was that it was one of a class of representations, carved and painted, that must

¹ This illumination was one of the ornaments of a manuscript of Herrade de Landsberg, its subject being Solomon lying on his bed, guarded by his warriors. Unhappily, it perished when the Library was burnt by the Prussian army in 1870. See article "*Lit.*" *Dictionnaire raisonné du Mobilier Français*.

² Even the shape of the shields slung

round the necks of Solomon's warriors is similar, though somewhat longer.

³ There is another broken lance, in a symmetrical W shape, under the second horse from the west.

⁴ See my papers on "Hardham Church and its Early Paintings," in Vol. LVIII of this *Journal*, p. 82; and *Sussex Archaeological Collections*, XLIV, 98.

have been common in France and England during the twelfth century—the miraculous intervention of St. George in favour of the Christians at the siege of Antioch. But a more searching inspection seemed to render this view improbable. There was no nimbed figure that could be identified with the saint; there were no awe-struck warriors, spectators of his supernatural prowess—as at Fordington; no band of rescued Christians; in short, none of the familiar accessories of the famous legendary picture. And if this explanation proved disappointing, others, such as the literal or mystical battles of Holy Writ, seemed even more impossible to identify with the painting.

The credit for suggesting the—as I think—true solution of the problem lies with the Vicar of Claverley, the Rev. T. W. Harvey, who claims that the scene depicted is wholly secular in character, although invested at the time when it was painted with a semi-religious halo; that it is indeed nothing more nor less than an incident in the Battle of Hastings with which the founder of the church, Roger de Montgomery, was prominently associated. It is this fact—if such it can be proved to be—and not its exceptional antiquity only, which gives this painting an altogether unique interest.

The most prominent feature in the whole strip painting is the gigantic figure, with legs in air, falling on its head. There can be no mistaking that this prominence is intentional, and that the figure is meant to represent an exceptionally tall man.² This fact assumes a special significance in the light of a passage in Master Wace's *Roman de Rou*:—³

"The Normans were playing their part well, when an English knight came rushing up, having in his company hundred men, furnished with various arms. He wielded a northern hatchet with the blade a full foot long, and was well armed after his manner, *being tall*, bold, and noble carriage. In the front of the battle where the

¹ Cf. note 4, page 67.

² Assuming the height of the average figure in the strip to be 6 feet, that of the giant would be *eight*, according to my measurement! The artist purposely exaggerated, to leave no room for doubt that a very big man was represented.

Perhaps it was with the same object view that he drew the prostrate warrior No. 8 as small in proportion as the other is gigantic.

³ From pp. 200–201 of the translation. (*Roman de Rou*, 13387–13423 in the original.)

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Normans thronged most, he came bounding on swifter than the stag, many Normans falling before him and his company. He rushed straight upon a Norman who was armed and riding upon a war horse, and tried with his hatchet of steel to cleave his helmet; but the blow miscarried, and the sharp blade glanced down before the saddle-bow, driving through the horse's neck down to the ground so that both horse and master fell together to the earth. I know not whether the Englishman struck another blow, but the Normans who saw the stroke were astonished, and about to abandon the assault, when Rogier de Montgomeri came galloping up, with his lance set, and heeding not the long-handled axe which the Englishman wielded aloft, struck him down, and left him stretched upon the ground. Then Rogier cried out, 'Frenchmen, strike! The day is ours!' And again a fierce *mêlée* was to be seen, with many a blow of lance and sword, the English still defending themselves, killing the horses, and cleaving the shields."

The late Professor E. A. Freeman weaves this incident into his account of the battle, in illustration of the dramatic personal encounters which were going on over a certain small wooded hill shown in the Tapestry. After mentioning the special execution done by this "gigantic Englishman" and two others, "sworn brothers-in-arms," who fought side by side, many horses and men falling beneath their axes, he says, "This account (Wace 13387-13423) is worth notice. The Englishman is at last killed by Roger de Montgomery."¹

It is a well known fact that the early writers differed as much in their accounts of the famous battle as have later writers in their glosses upon them. We need not be surprised that some doubt may be said to exist as to the fact of Roger's presence at Hastings. It has been maintained that he stayed behind to keep order for Duke William in his Norman possessions, and Ordericus Vitalis

¹ Mr. Round in a communication received respecting these paintings, after reminding me that the question whether Roger was at Hastings was fought out many years ago between Sir

H. Howorth and Prof. Freeman in the *Academy*, remarks that "the story in Wace of course could only be a tradition, but *might* quite well be true."

is quoted, inferentially, in support of this view, as against Wace.¹

But it is beside my point to argue for or against Roger's having taken an actual part in the famous battle. So far as this painting is concerned, the only important question for our consideration is as to whether the great earl, who had built Claverley Church and endowed the foundation of which it formed a part, would be popularly *believed*, a hundred years afterwards, to have been present at it. If Orderic's history is doubtful on this point, or if his observations may be construed in a contrary sense, at least we have the affirmative testimony of Wace, in whose life-time the painting may have been executed.

Master Wace, the prebendary of Bayeux, would be well known to the monks of La Sauve Majeure, and no doubt they would be entirely in sympathy with his attitude towards the Conquest. Indeed, we may suppose that towards the end of the twelfth century that great event had become in the eyes of the clergy and governing classes almost a "holy war,"—blessed, as it had been, by the Pope and crowned with success.

On the other side of the Channel, the famous Tapestry was even then used to hang round the nave of Bayeux Cathedral. Probably it had been executed to the order of Odo, Bishop of Bayeux, and half brother of the Conqueror, who figures so prominently in it, and who alone could have obtained a dispensation for the exhibition of a secular representation within the Cathedral.

Even in those days the fame of this embroidered history would spread far and wide, and we may well suppose that representatives of great families would desire to record the deeds of their sires at Hastings in some similar manner. And in the case of Claverley, allowing for the popular execration of Robert de Belesme, there is

¹ Ordericus Vitalis was born at Atcham, near Shrewsbury, in 1075, and educated up to ten years of age at the latter town. He was, we are told, the son of Odeler of Orleans, a married priest, who in Roger de Montgomery's train had accompanied the Conqueror to England. Although compelled to leave his native country at an early age, he always regarded himself as an exile. He is supposed to have died about 1143.

Wace, on the other hand, was born about 1120 and died about 1180. Ordericus probably wrote his *History of the Church*, in which is included the Conquest of England, between 1130 and 1141, while a monk at St. Evroul. Wace was therefore further removed in point of time from the events he wrote about. He was a court favourite, and was given by Henry II. a prebend at Bayeux.

no reason to suppose that the memory of the great Earl Roger would be looked back to with vindictive feelings. We may assume, indeed, that the clerics at least held him in grateful remembrance as the founder of the church.

In conclusion, it is my pleasant duty to acknowledge the kind assistance which I have received in preparing this paper from many friends, including the Vicar of Claverley and Mrs. Harvey, Mr. W. Wood-Bethell, architect for the restoration of the church, and his clerk of the works, Mr. Mann.

NOTE.—It has recently come to my knowledge that in restoring the church of Lydiard Tregoz, Wilts, a battle scene, said to be of Norman date, has been found painted on the walls of the nave. As this church owes its foundation to the Tregoz who fought at Hastings, the coincidence is at least suggestive.

ENGLISH FORTRESSES AND CASTLES OF THE TENTH AND ELEVENTH CENTURIES.

By W. H. ST. JOHN HOPE, M.A.¹

The antiquarian world has recently been startled by the calling in question of the accepted views on certain types of post-Roman earthworks found in this country, especially with regard to the class known as "burhs," as laid down by the late Mr. G. T. Clark, and eventually followed without hesitation by the late Professor Freeman and most other writers on the subject.²

The present seems therefore a fitting opportunity to lay before the Royal Archaeological Institute some remarks on the extent of our knowledge of the subject. There are also two other reasons for so doing. Firstly, because four important fortresses, the castles of Southampton, Winchester, Portchester, and Carisbrooke, are to be visited during the present Meeting; and, secondly, because special attention has been given to the study of earthworks and castles by the Institute from its earliest days, and many of the best papers on the subject are printed in the *Archaeological Journal*.

The principal writer of these communications was the late Mr. G. T. Clark. He contributed a paper on "Military Architecture" to the first number of the *Journal* in 1844, and though his next, an account of Corfe Castle, did not appear until 1865, from that time down to 1889 there is hardly a volume that does not contain one or more of his lucid contributions. In 1884, Mr. Clark published in two volumes, entitled *Mediaeval*

¹ Read at the Southampton Meeting of the Institute, July, 1902.

² Mr. Clark's theories were first called in question by the writer of a retrospective review of his work on *Mediaeval Military Architecture in England* in *The Quarterly Review* for July, 1894 (No. 357, pp. 27-57), of which Mr. J. H. Round has since acknowledged the authorship. The matter was further

discussed by Mr. George Neilson in an article on "The Motes in Norman Scotland" in *The Scottish Review* for October, 1898 (pp. 209-238), and in a paper on "Anglo-Saxon Burhs and Early Norman Castles" by Mrs. F. S. Armitage in *Proceedings of the Society of Antiquaries of Scotland*, Session 1899-1900, vol. xxxiv, pp. 280-288.

Military Architecture in England, a collection of his papers, many of which had been printed elsewhere than in the *Journal*. This collection, unfortunately, was not revised by the author before publication, with the result that a work which must for some time, at any rate, serve as the standard authority on English Castles, is marred by contradictions and blemishes that might have been eliminated. The most serious of these blemishes is the section which deals with the question of burhs.

Almost the last of Mr. Clark's long series of contributions to the *Archaeological Journal* was a paper entitled "Contributions towards a complete list of moated mounds or burhs." This was printed in the number for September 1889, five years after the issue of his volumes of collected papers, and may therefore be taken to represent his final views on the subject.

Concerning these earthworks, Mr. Clark writes: "Their chief and most striking characteristic is a circular mound, table topped, and surrounded by a deep and broad ditch, out of which, where the mound is wholly artificial, it has been formed. Appended to the mound, outside of, or beyond its ditch are one or two enclosures, abutting upon the ditch of the mound, and contained within banks of earth, defended by an extensive ditch, communicating with the ditch of the mound. . . . An earthwork of this description is what is described in the Anglo-Saxon Chronicle as a Burh, and when we read that Edward or Ethelflede wrought or Getymbred a Burh,¹ this is what we may expect to find, unless the works have been levelled or encroached upon, as is often the case."²

Mr. Clark's definition of a burh is so widely held, now that it has been put into print, that it will be interesting to see what is the evidence for it in the Chronicle.

In recording events subsequent to the first landing of the Danes in England in 787, the Chronicle mentions three classes of fortress:

¹ Mr. Clark and those who follow him have overlooked the existence of dozens of other moated mounts outside Mercia and East Anglia, which could

not in anywise have been thrown up by Edward or Ethelfleda.

² *Archaeological Journal*, xlii, 197, 198.

- (1) the "geweorcs" and fastnesses thrown up for the most part by the Danish invaders or "heathen men" during the second half of the ninth century;
- (2) the "burhs" or "burgs" builded or wrought by the English during the first quarter of the tenth century as offensive and defensive works against the Danes; and
- (3) a new form of fortress, introduced by the Normans, called "castel."

The term "geweorc" is usually applied to the defensive works or fortresses thrown up by the Danish invaders for the protection of themselves, their women, and children, as well as their horses, and the cattle they had raided for food, when they felt themselves strong enough to winter here. The first time they ventured to do this, in 851, they chose an island on the coast, that of Thanet, with the sea behind to retreat by, and in 855 the island of Sheppey, which had the same advantage.

The first mention of a "geweorc" is in 868, when the Danish army took up its winter quarters within one at Nottingham.¹ Neither the site nor the nature of this fortress is known, but it was strong enough to sustain a siege by the Mercians and West Saxons, which ended in their making peace with the invaders. Other "geweorcs" were wrought by the Danes at Middleton and at Appledore in Kent in 893,² and at Benfleet in Essex³ and at Shoebury in 894.⁴

¹ 868. Her fór se ilca here innan Mierce to Snotengaham, & þær winter setl namon; & Burgæd Mierena cyning & his wiotan bædon Æpered West Seaxna cyning & Ælfred his broþur þæt hie him gefultumadon, þæt hie wiþ þone here gefuhton; & þa ferdon hie mid Wessexna fierde innan Mierce of Snotenga ham, & þone here þær metton on þam geweorce, & þær nan hefelie gefeoht ne wearp, & Mierce friþ namon wiþ þone here. Plummer and Earle. *Two of the Saxon Chronicles parallel* (Oxford, 1892 and 1899), i. 68, 70. In future notes this edition will be quoted as "Plummer and Earle."

² 893. Ða sona æfter þam com Hæsten mid lxxx. scipa up on Temese muðan, & worhte him geweorc æt Mid-

deltune, & se oper here æt Apuldre. *Ibid.* i. 84.

³ 894. Hæfde Hæsten ær ge worht þæt geweorc æt Beamfleote. *Ibid.* i. 86. Ða he þa wið þone here þær wæst abisgod wæs, & þa hergas wæron þa gegaderode begen to Sece byrig on East Seaxum, & þær geweorc worhtun. *Ibid.* i. 87.

⁴ One other early fortress is mentioned in the Chronicle, that at Wareham, in Dorset, to which the Danish army stole away in 876. Wareham had been a place of note for some time before, and Beorhtric king of Wessex is recorded to have been buried there in 784. The town stands to-day within an extensive rectangular earthwork of early date, which protects it on three sides, while

But the word was not restricted to Danish defences only. In 878 King Alfred was compelled to take refuge from the Danes, with a small band of followers, among the woods and moor fastnesses of Somerset, and here in the spring he wrought a "geweorc" or fort at Athelney, and from it made sallies to harry the enemy.¹ In 896 the Danes wrought a "geweorc" on the Lea, twenty miles north of London, from whence they harried the neighbourhood. But the king wrought two "geweorcs," one on either side of the river, below their "geweorc," and so hindered the Danes from bringing out their ships. They accordingly went overland to Quatbridge by the Severn and there wrought themselves another "geweorc," in which they wintered.²

In 885 one part of the Danish army went to Rochester, and there besieged the "ceaster," then, as still, encircled by its Roman wall. They also wrought a "faestan" or fastness about themselves, probably to guard against surprise. The city was defended until Alfred came without with his army, and compelled the Danes to raise the siege, whereupon they "forlet that geweorc" as it is also called, and withdrew to their ships, leaving their horses behind them.³ It has been supposed by

the river Frome forms the defence on the fourth side. The high banks enclose an area of about 80 acres, and are locally known as "the walls"; there are however no signs of masonry on them. The remnant of a small mount by the river in the south-west corner may belong to a later period. Both Mr. Fox and Mr. Haverfield tell me there is no reason whatever for regarding Wareham as a Roman site, and as the defences moreover possess a cardinal defect never found in Roman work, the absence of a rampart or wall on the fourth side, they may be of Saxon or Danish origin.

¹ 878. On Easton worhte Ælfred cýning lýtle werede geweorc at Æpelinga eigne, & of þam geweorce was winnende wip þone here, & Sumursetna so dæl se þær nieht was. Plummer and Earle, i. 76.

² 896. On þy ylcan gere worhte se fore sprecena here geweorc be Lygan .xx. mila bufan Lunden byrig. Þa þæs on sumera foron micel dæl þara burg wara, & eac swa opres folces, þæt hie gedydon at þara Deniscana geweorc, & þær wurdon gefliemde, & sume scower

cýninges þegnas ofslægene. Þa þæs on hærfæste þa wicode se cýng on neaweste þære byrig, þa hwile þe hie hira corn gerypon, þæt þa Deniscan him ne mehton þæs ripes for wiernan. Þa sume dæge rad se cýng up be þære eá, & gehawade hwær mon mehte þa eá for wyrcan, þæt hie ne mehton þa scipu ut bringan. & hie ða swa dydon. worhton ða tú geweorc. on twa healde þære eás. Þa hie ða þæt geweorc furpum ongunnen hæfdon, & þær to ge wicod hæfdon. þa onget se here þæt hie ne mehton þa scypu utbrengan; þa forleton hie hie, & eodon ofer land þæt hie gedydon at Cwat bryce be Sæfern, & þær gewerc worhton. *Ibid.* i. 89.

³ 885. Her to dælde se fore sprecena here on tu, ofer dæl east. ofer dæl to Hrofes ceastre; & ymb sæton ða ceastre, & worhton ofer fæsten ymb hie selfe. & hie þeah þa ceastre aweredon oppæt Ælfred com utan mid fierde; þa eode se here to hiera scipum, & forlet þæt geweorc. & hie wurdon þær behorsade, & sona þy ilcan sumere ofer sæ gewiton. *Ibid.* i. 78.

some that the Danish fastness was the large mount to the south of the present castle, known as Boley Hill, but there are difficulties against accepting this view, and the mount is much more likely to be a work of Norman times.

In 893 the Danes with 250 ships landed from Boulogne at the mouth of the river Limen. They towed their vessels four miles up the stream as far as the weald, and there stormed a "geweorc," which is described as a fastness only half-wrought, containing but a few countrymen.¹ This fastness seems to have been the Roman fort at Lympne, then probably already partly destroyed by the landslips that have since brought about its present utter ruin. The mention of its being but "half-wrought" suggests that it was undergoing repair when attacked by the Danes.

There remains the question, what was the nature of the "geweorcs" and fastnesses we have been considering?

Mr. Clark² includes them among his burhs, and asserts that "some of these works remain, and are good examples of moated mounds." Unfortunately he quotes one instance only, that at Farnham, and this is not described in the Chronicle as a "geweorc," but only as the site of a battle.³ So far as I have been able to ascertain, not only is a moated mount conspicuous by its absence at every place where a "geweorc" or fastness is said to have been wrought, but the traces of the works themselves are so indefinite that in many cases their very sites are still in dispute. Apparently these works were nothing more than entrenched or palisaded enclosures for temporary defence, like the zareba of modern warfare, and their disappearance is therefore easy to account for.

We must next consider the question of the burhs or burgs, for they are called by both names.

¹ 893. Her on þysum geara for se miela here . . . comon up on Limene mupan. mid col. hunde scipa . . . on þa ea hi tugon up hiora scipu of þone weald .iiii. mila fram þæm mupan ute weardum. & þær abracon an geweorc. inne on þæm fæstenne sæton feawa

cirlisce men on, & was sam worht. *Ibid.* i. 84.

² *Op. cit.* i. 20.

³ 894. þa for rad aio fierd hie foran, & him wið gefeaht æt Fearnhamme, & þone here gefliemde, and þa here hyra ahreddon. Plummer and Earle, i. 85.

The word "burh" first occurs in the Chronicle, so far as the present question is concerned, in 886, with reference to London :

"Ðy ilcan geare gesette Ælfred cyning Lunden burh . . . & he þa befeste þa burh Æþere ðe ealdormen to healdenne";¹

or in more modern English :

"In the same year King Alfred restored London, and he then committed the burh to the keeping of alderman Æthered."

Burhs are also mentioned incidentally in the account of Alfred's campaign against the Danes in 894, but that at Exeter is the only one named.²

During the harrying of the Danes by King Edward the elder and his sister Ethelfleda, burhs were builded or wrought in many places in Mercia and East Anglia between 910 and 925.

Those credited to Ethelfleda are "Bremesburh" (909),³ "Scergeate" and Bridgnorth (912),⁴ Tamworth and Stafford (913),⁵ Eddesbury and Warwick (914),⁶ and "Cyrigbyrig," "Weardbyrig," and Runcorn in 915.⁷ In 917 Ethelfleda acquired the burh called Derby, but not without the loss of four of her thanes, who were slain within the gates (binnan tham gatum),⁸ and the following year the burh at Leicester (Legraceastra) submitted peaceably to her.⁹ Ethelfleda died at Tamworth in 918 and was buried at Gloucester.

The accounts of King Edward's burh-building are of great interest.

In 913 he ordered the north burh to be built at Hertford between the three rivers Maran, Bean, and

¹ *Ibid.* i. 81.

² *Ibid.* i. 86.

³ 909. Þy ilcan geare Æpelflæd getimbrode Bremes burh. *Ibid.* i. 95.

⁴ 912. Her com Æpelflæd Myrcna hlæfdige . . . to Scergeate, & þær ða burh getimbrode. & þæs ilcan gearas þa æt Brige. *Ibid.* i. 96.

⁵ 913. Her Gode forgyfendum for Æpelflæd Myrcna hlæfdige mid eallum Myrcum to Tamaweorðige. & þa burh þær getimbrode. on foreweardne sumor, & þæs foran to hlaf mæssan. þa æt Stæf forða. *Ibid.* i. 96.

⁶ 914. Þa ðæs opre geare þa æt Eades byrig on fore weardne sumor. & þæs ilcan gearas eft on ufeweardne hærfest þa æt Wæringwicum. *Ibid.* i. 98.

⁷ 915. Þa ðæs opre geare on ufan midre winter þa æt Cyric byrig & þa æt Wearl byrig. & ðy ilcan gere foran to middan wiutra þa æt Rum cofan. *Ibid.* i. 99.

⁸ 917. Her Æpelflæd Myrcna hlæfdige Gode fultum gendum foran to hlaf mæssan begeat þa burh mid eallum þam ðe þær to hyrde, þe ys haten Deoraby. þær wæron eac of slegene hyre pegna feower ðe hire be sorge wæron binnan þam gatum. *Ibid.* i. 101.

⁹ 918. Her heo begeat on hire gewæld mid Godes fultume on fore weardne gear geaybsumlice þa burh æt Ligra ceastre. *Ibid.* i. 105.

Lea. The next summer he encamped at Maldon while the burh at Witham was being wrought and builded by some of his force, while others wrought a burh at Hertford on the south side of the Lea.¹ In 918 the king went to Buckingham and sat there four weeks, and wrought two burhs (*burga* or *byrig*), one on each side of the river, before he left.² In 919 he went to Bedford and gained the burg there. Here too he stayed four weeks, and wrought the burg on the south side of the river before he went thence.³ The next year the king was again at Maldon, where he also builded and established a burg.⁴

In 921 King Edward was very busy. First he went to Towcester, and there builded the burg, and a few weeks later he ordered the burg at "Wigingamere" to be built. In the course of the summer the Danes besieged Towcester unsuccessfully for a whole day. Another band also went to Tempsford and wrought a "geweorc" there, at the same time abandoning one at Huntingdon which they had previously occupied.⁵ They also laid siege unsuccessfully to Bedford and the burgh at "Wigingamere." The Danes themselves were next besieged in turn in their burg, as it is also called, at Tempsford, which was stormed.

¹ 913. Her on þys geara . . . het Eadweard cyning atimbran þa norðran burg æt Heorot forða betweox Memeran & Bene flican & Lygean; & þa æfter þam þæs on sumera . . . þa fôr Eadweard cyning mid sumum his fultume on East Seaxe to Mældune & wicode þær þa hwile þe man þa burg worhte & getimbrede æt Witham & him beag god dæl þæs folces tó þe ær under Deniscra manne anwalde wæron, & sum his fultum worhte þa burg þa hwile æt Heorotforða on sup healfes Lygean. *Ibid.* i. 96.

² 918. & þa æfter þam on þam ilcan geare foran to Martines mæssan, ða for Eadweard cyning to Buccingahanme mid his fyrde, & sæt þær feower wucan, & geworhte þa byrig buta on ægþær healfes eas ær he þanon fore. *Ibid.* i. 100.

³ 919. Her on þys gere Eadweard cyng fôr mid fierde to Bedan forða foran to Martines mæssan, & be get þa burg, & him cirdon to mæst ealle þa burgware þe hie ær budon, & he sæt þær feower wucan, & het atimbran

þa burg on sup healfes þære eas ær he þonan fore. *Ibid.* i. 100.

⁴ 920. Her on þys gere foran to middum sumera for Eadweard cyning to Mældune, & getimbrede þa burg & gestaðolode ær he þanon fore. *Ibid.* i. 100.

⁵ 921. Here on þysum gere foran to Easton Eadweard cyning het gefaran þa burg æt Tofecceastre. & hie getimbran; & þa eft æfter þam on þam ilcan geare to gang dagum he het atimbran þa burg æt Wiginga mere;

ƿy ilcan sumera be twix hlaf mæssan & middum sumera se here bræc pone frip of Hamtune, & of Ligera ceastre, & þonan norþan, & foron to Tofe ceastre, & fuhton on þa burg ealne dæg, & þolton þæt hie hie sceolden abrecan; ac hie þeah awerde þæt folc þe þær binnan wæs of him mara fultum tó com, & hie forleton þa þa burg, & foron aweg;

ƿy ilcan sipe for se here of Huntandune, & of East Englum, & worhton þæt geweorc æt Tæmese forða, & hit budon & bytledon, & forleton þæt oper æt Huntandune . . . *Ibid.* i. 101.

A little later the English beset the burg at Colchester, and fought against it until they reduced it, and slew all the folk therein "except the men who fled over the wall (weall)."¹ The same autumn the King went to Passenham and sat there the while his men wrought the burg at Towcester with a stone wall (stan weall).² He also repaired the burgs at Huntingdon and Colchester, and built that at "Cledemutha," a place as yet unidentified.³

In 922 Edward went to Stamford and wrought the burg on the south side of the river, and the folk in the north burg submitted to him. After Ethelfleda's death at Tamworth, he took possession of the burg there, and afterwards went to Nottingham, where he first reduced the burh and then ordered it to be repaired and peopled.⁴ In 923 Edward went to Thelwall, and there ordered the burg to be built, inhabited, and manned.⁵ The following year he was again at Nottingham, where he wrought a burg on the south side of the river, opposite the other, and the bridge over the Trent between the two burgs. From thence he went into Peakland to Bakewell, and there ordered a burg to be built and manned in the immediate neighbourhood.⁶ In 925 King Edward died.

We ought now to consider why these burhs were

¹ Þa æfter þam þæs for hraþe gegad-orode micel folc hit on hærfest, sægþer ge of Cent, ge of Suprigum, ge of East Seaxum, ge æghwonan of þam nihstum burgum, & foron to Colne ceastre, & ymbæston þa burg, & þær on fuhton of hie þa geodon, & hæst folc eall of slogon, & genamon eal þæt þær binnan wæs, buton þam mannum þe þær of flugon ofer þone weall. *Ibid.* i. 102.

² Þa þæs for hraþe þæs ilcan hærfestes for Eadweard cyning mid West Sexna fierde to Passan hamme, & sæt þær þa hwile þe mon worhte þa burg æt Tofe ceastre mid stan wealle. *Ibid.* i. 102.

³ 921. Her Eadweard cing getimbrede þa burh æt Clede mupan. *Ibid.* i. 105.

⁴ 922. Her on ðysum gere betweox gangdagum & middan sumera for Eadweard cyng mid fierde to Stean forde, & het gewyrcean ða burg on suð healfе ðære eas, & sæt folc eal ðe to ðære norþerran byrig hierde. him beah tó, &

sohtan hiue him to hlaforde. & þa on þam setle ðe he þær sæt, þa gefor Ælfelæd his swystar æt Tame worthige. xii. nihtum ær middum sumera; & þa gerad he þa burg æt Tameworthige . . . þa fór he þonan to Snotingham & gefór þa burg, & het hie gebetan & gesettan. sægþer ge mid Engliscum mannum, ge mid Deniscum. *Ibid.* i. 103, 104.

⁵ 923. Her on þysum gere for Eadweard cyning mid fierde on ufan hærfest to Pel wæle, & het gewyrcean þa burg, & gesettan, & gemannian. *Ibid.* i. 104.

⁶ 924. Her on þysum gere foran to middum sumera for Eadweard cyning mid fierde to Snotingham, & het gewyrcean þa burg on sup healfе þære eas, ongean þa opre, & þa brycge ofer Treontan betwix þam twan burgum; & fór þa þonan on Peac lond to Badecan wiellon, & het gewyrcean ane burg þær on neweste, & gemannian. *Ibid.* i. 104.

wrought and for what reason their sites were chosen, but before so doing it is necessary to clear the ground by regarding them from the standpoint of Mr. Clark.

Of Ethelfleda's burhs, "Bremesburh," "Scergeate," "Cyrigbyrig," and "Weardbyrig," and of Edward's, "Wigingamere" and "Cledemutha" have not yet been identified. At seven, Bridgnorth, Stafford, Eddesbury, Runcorn, Witham, Maldon, and Thelwall there is no record or trace of any moated mount. There are mounts at Tamworth, Warwick, and Leicester, each of them the site of a Norman castle, but there is none at Derby. At Bakewell there is a small oblong enclosure to the west of the town, with a small mount near one end, which has been thought to be Edward's burg, but it does not conform to Mr. Clark's theory.

In the case of the double burhs at Hertford, Buckingham, Bedford, Stamford, and Nottingham, there ought, according to Mr. Clark, to be two mounts at each of these five places. Of Hertford he writes: "One is gone, but the other remains, and on it was the shell keep of the castle of de Valognes;" and of Buckingham: "The two moated mounds thrown up in 918 are gone, and the present church stands on the site of one of them. The other was probably occupied by the keep of Earl Gifford's castle." Of Bedford he writes: "One of the two mounds mentioned in the Saxon Chronicle has been lowered and surrounded by earth-banks, and the subsequent masonry removed. . . . The second mound on the right bank of the Ouse has long been removed." Of the two burhs at Stamford, Mr. Clark writes: "One was connected with the later castle, now swept away;" and of those at Nottingham he has also to admit, "Both are now gone."

So that out of ten possible mounts, two have been preserved as the sites of Norman castles, and eight, Mr. Clark thinks, have been removed.

For myself I am extremely sceptical as to this theory of such wholesale removal. As every antiquary knows, earthworks are the most persistent of landmarks, and those are the more enduring that include a mount, owing to the great cost and labour which its removal would involve.

The fact is that Mr. Clark's theory of a burh had no existence outside his own imagination, and we need not waste time in looking for mounts where never mount was. The Chronicle, to which Mr. Clark appeals, does not give the slightest hint that any mount was anywhere thrown up, but it contains abundant evidence of what a burh really was. The "Lundenburh" restored by Alfred was no moated mount, but, as is well known, the Roman city of London, the walls of which were repaired by the king in 886. So too the burg at Colchester, which was beset and stormed by the English in 921, was the Roman town of *Camulodunum*, and we are told that the Danes within who escaped slaughter, were they who fled away over the (Roman) wall. It is clear too that many of the burhs captured by or surrendered to Edward and Ethelfleda were fortified towns also. Some were probably defended only by entrenchments or palisades, while others, such as Chester, which was renovated in 907, and Leicester, were walled, and Derby had its gates.

There is moreover an interesting entry in one of the copies of the Chronicle which shows clearly the meaning of the word, that Kenulf, who was abbot of Peterborough from 993 to 1006, "first made the walls about that monastery, and then gave it for name Burch that was before called Medehamstede."¹

A burh or burgh was therefore something more than a mere fort, such as a mount and court formed, and the *New English Dictionary*, *s.v.* Borough, properly defines it as "a fortified town; a town possessing municipal organization; more generally, any inhabited place larger than a village."

We may now return to the question why burhs were wrought, and for what reason their sites were chosen.

The object of their construction by Edward and Ethelfleda was clearly to keep out the Danes, or to enclose them, as it were, with a series of blockhouses, by barring the waterways which the enemy used. Edward possessed a number of important towns, such as London, Oxford, Gloucester, Hereford, and Chester, already built

¹ He macode fyrst þa wealle abutan Burch. þe ær het Medeshamstede.
þone mynstre. geaf hit þa to nama *Ibid.* i. 117.

beside rivers, the passage of which they commanded. Other burhs that fell into his hands, including Derby, Leicester, Tamworth, York, Bedford, Huntingdon, and Stamford, were similarly situated. Some of these, like Bedford and Stamford, were made stronger by being extended to both sides of the river, and at other places entirely new works were necessary, as at Bridgnorth, Stafford, Warwick, Thelwall, and Maldon, which again were doubled at important points like Buckingham, Hertford, and Nottingham.

A reference to a map shows very clearly the importance of the sites chosen for Edward's and Ethelfleda's burhs, and how effectually they and the pre-existing towns defended the passage of all the chief rivers in Edward's dominions. The Romano-British forts of the Saxon shore had played a similar part in defending all the great estuaries from the Wash to the Solent, but Edward had to contend with an enemy already in being, and his strongholds had therefore to bar the waterways inland, so that the enemy within the cordon could be reduced to submission, and any without hindered from coming further.

The consequences of Edward's policy soon became visible. The building of Witham caused the submission of many who were before under the power of the Danes. The surrender of Leicester to Ethelfleda was followed by the submission of York. The walling of Towcester induced the Danish army at Northampton to own Edward as lord. The repair of Huntingdon, Colchester, and Nottingham, and the capture of Bedford and Stamford, also brought about further surrenders, so that in 922 all the people who were settled in the Mercians' land submitted to Edward, both Danish and English,¹ and in 924 he was chosen for father and lord by the Scots, and all the Northumbrians, and by all the Strathclyde Welsh.²

¹ Him cierde eall þæt folc to þe on Mercna lande geseten was, ægþer ge Denisc ge Englisc. *Ibid.* i. 104.

² Hine geceas þa to fæder & to hlaforde Scotta cyning & eall Scotta peod; & Rægnald, and Eadulfes suna, &

ealle þa þe on Norþ hymbrum bugeaþ, ægþer ge Englisc, ge Denisc, ge Norpmen, ge opre; & eac Stræclæd Weala cyning, & ealle Stræclæd Wealas. *Ibid.* i. 104.

We have lastly to consider the third class of the fortresses referred to in the Chronicle, the "castels" of the Norman period.

The first mention of a "castel" is in 1048 :

"Then had the Welshmen wrought a castle in Herefordshire among Earl Swegen's followers and wrought every harm and insult to the king's men thereabout that they could";¹

and the surrender of this castle and of the Frenchmen, *i.e.* Normans, who were in it was among the things demanded by Earl Godwin in 1052.

On the return of Godwin from banishment in 1052, the Chronicle states that Archbishop Robert and the Frenchmen, who had caused the discord between Godwin and the King, "took their horses and went, some west to Pentecost's castle, some north to Robert's castle."²

The castle in the west has been identified by Mr. Round as the castle of Osbern surnamed Pentecost, at Ewias Harold,³ and is probably the Herefordshire castle referred to in 1048. The castle to the north, that is of London, was apparently, as Mr. Round also suggests,⁴ the castle of Robert son of Wimarc, at Clavering in Essex.

We are on more sure ground in the case of the next example, the "castel at Hæstinga port," wrought by Duke William of Normandy on his landing in England in 1066, for the Bayeux Tapestry actually depicts its throwing up, as is shown by the inscription: "ISTE : IVSSIT : VT : FODERETVR : CASTELLUM : AT : HESTENGA-CEASTRA."

Early in the following year, William, now King of the English, went over sea to Normandy; "and Bishop Odo and Earl William," says the Chronicle, "remained here behind, and wrought castles widely throughout the nation and oppressed poor folk; and ever after that it greatly grew in evil."⁵

¹ ƿa hæfdon ƿa welisce menn ge wroht ænne castel on Herefordscire on Swegenes eorles folgoðe. & wrohten ælc ƿæra harme. & bismere ƿæs cynges mannan ƿær abutan ƿe hi mihton. *Ibid.* i. 173, 174.

² Ða ge axode Rotberd arčb & ƿa Frencisce menn ƿ genamon heora hors. & gewendon sume west to Pentecostes

castele. sume norð to Rodbertes castele. *Ibid.* i. 181.

³ J. H. Round, *Feudal England*, 324; *Archæologia*, lviii. 323.

⁴ *Archæologia*, lviii. 328.

⁵ Oda b & Wyllelm eorl be lifen her æfter. & worhton castelas wide geond ƿas þeode. & earm folc swencte. & æ syððan hit yflade swiðe." Plummer and Earle, i. 200.

Now what were these castles, why and by whom were they raised, and in what did they differ from the fortresses we have already dealt with?

In the Chronicle a "castel" is an offensive and defensive work distinct from a town, though there are some Anglo-Saxon charters in which it clearly means a fortified town. Thus a charter of Egbert of 765 refers to land "intra castelli moenia supranominati, id est Hrofescestri,"¹ and one of Ethelwulf of 855 mentions "unam villam . . . in meridie castelli Hrobi."² In both cases the reference is to Rochester, where no castle, in the later sense of the word, existed until one was wrought by Odo bishop of Bayeux about 1080. The mention too in Domesday Book of the "Castrum Harundel" in the time of King Edward has been lately shown by Mr. J. H. Round to refer to the town of Arundel, and not to Earl Roger's stronghold,³ and this is also the case with "Castellum Monemude."

But the usual meaning of "castle" is a fortified enclosure (Lat. *castrum* or *castellum*), surrounded by walls or earthworks. It was also the stronghold of an individual, and not of a community, and had therefore nothing in common with a burh, burg, borough, or town.

By the time of the Norman Conquest many of the burgs to which reference has been made had risen in importance and become populous centres, partly perhaps on account of their situation on a waterway, and also from their position on main lines of road. But their inhabitants, whether English or Danish, were alike hostile to King William. It was therefore part of William's policy to build a castle at every such centre, for the double purpose of keeping the unfriendly townsfolk in order, and guarding and controlling the river passage.

And it is quite clear that these castles were something new. I have already quoted the complaint of the chronicler that William's regents, Odo bishop of Bayeux and William FitzOsbern the earl, during the king's absence in Normandy in 1067, "wrought castles widely throughout the nation and oppressed poor folk."

¹ Thorpe, *Registrum Roffense*, 16.

² *Ibid.* 24.

³ *Archaeologia*, lviii. 332.

Orderic, too, in describing the insurrection that took place in 1068 in various parts of the kingdom, especially in the Welsh marches and in Northumbria, says that "the fortresses which the French call castles have been very few in the English provinces, and on this account the English, although they were warlike and bold, were notwithstanding too feeble to resist their foes."¹

The few castles that already existed, like Pentecost's castle and Robert's castle mentioned in the Chronicle, were most probably the work of Norman favourites of King Edward.

William of Jumièges also states that King William, "guided by the prudence which he knew how to be mindful of in everything pertaining to a king, visited with extreme care the least fortified parts of his kingdom, and to repulse the attacks of enemies established very strong castles in suitable positions, which he fortified with the best of his soldiers and plenty of pay."²

These statements by Orderic and William of Jumièges are confirmed by Domesday Book, which describes quite a number of castles in terms that show they were new.

Concerning castles that were in the hands of the King, we read therein of houses being destroyed "pro castello" at Wallingford, of twenty-seven houses destroyed "pro castro" at Cambridge, and sixteen at Gloucester "ubi sedet castellum." At Huntingdon there used to be twenty houses "in loco castris" and "ubi castrum est." At Lincoln one hundred and sixty-six houses were destroyed "propter castellum." At Stamford five dwellings had become waste "propter opus castelli," and four at Warwick "propter situm castelli."

In the manor of Kingston, co. Dorset, the King had a hide of land "in qua fecit castellum Warham," now

¹ "Rex igitur secessus regni providentius perlustravit, et opportuna loca contra excursions hostium communivit. Munitiones enim (quas castella Galli nuncupant) Anglicis provinciis paucissimae fuerant; et ob hoc Angli, licet bellicosi fuerint et audaces, ad resistendum tamen inimicis extiterant debiliores." Ordericus Vitalis, *Historia Ecclesiastica*, ed. A. le Prevost (Paris, 1840), ii. 184.

² "Rex autem monitus quidem prudentia, qua consulere in cunctis Regi novit, immunita regni providissima dispositione perlustravit, ac ad arcendos hostium excursus tutissima castella per opportuna loca stabilivit: quae militum electissimo robore, et uberrima stipendiorum copia munivit." *Willelmi Calculi Gemmeticensis monachi Historia Normannorum*, in *Historiae Normannorum Scriptores Antiqui* (Paris, 1619), 291.

known as Corfe. At Rockingham land worth 26s. was waste "quando rex .W. jussit ibi castellum fieri," and at Stafford there was a piece of land in the manor of Chebsey "in qua rex praecepit fieri castellum quod modo est destructum." Windsor and Carisbrook are also described in terms that imply they were new.

Of other castles held of the King *in capite* the survey says that Earl Roger "construxit castrum Muntgumeri vocatum," and that at Oswestry, under Earl Roger, "ibi fecit Rainald castellum Luure." At Rhuddland in Flintshire, "in ipso manerio Roelend est factum noviter castellum similiter Roelent appellatum." At Rayleigh in Essex, "in hoc manerio fecit Suenus suum castellum," and William Malet "fecit suum castellum ad Eiam," i.e. Eye, in Suffolk.

With the building of five castles the name of William FitzOsbern is associated, and as he died in 1072, they can be approximately dated :

- (i) "Radulphus de Toden tenet castellum de Clifford. Willelmus comes fecit illud in wasta terra. quam tenebat Bruning T.R.E";
- (ii) "Castellum de Estrighoiel (? Chepstow) fecit Willelmus comes";
- (iii) "In Nesse sunt quinque hidae pertinentes ad Berchelai quas Willelmus comes misit extra ad faciendum unum castellulum," perhaps that at Berkeley itself;
- (iiii) of the castle of Wigmore, then held by Ralph de Mortimer, we read that "Willelmus comes fecit illud in wasta terra quæ vocatur Mere-stun"; and
- (v) concerning the "Castellum Ewias" the Survey says, "Willelmus comes . . . qui hoc castellum refirmaverat."

This last entry is of particular interest, since, as Mr. Round has pointed out, it refers to the rebuilding of the castle of Osbern surnamed Pentecost mentioned in the Chronicle in 1048 and 1052.

To this list of twelve royal and ten other new castles recorded in the Domesday Survey may be added a few more on the authority of Orderic :

In 1067 the King built a strong citadel (*validam arcem*) at Winchester, "intra moenia Guentae," and committed it to the custody of William FitzOsbern.¹

In the same year, shortly after the submission of the citizens of London, and his coronation at Westminster, Orderic says that William had left London and stayed for a few days in the neighbouring place of Barking, "dum firmamenta quaedam in urbe contra mobilitatem ingentis ac feri populi perficerentur."²

In 1068, following upon the famous siege of Exeter, William "locum intra moenia ad extruendum castellum delegit, ibique Balduinum de Molis filium Gisleberti comitis, aliosque milites praecipuos reliquit, qui necessarium opus conficerent, praesidioque manerent."³

In the same year, after William's campaign in the Welsh Marches and Northumbria, Orderic says the King built castles at Nottingham, York, Lincoln, Huntingdon, Cambridge, and Warwick.⁴ The three last named we have already met with in Domesday Book.

The Abingdon Chronicle also states that, at the beginning of William's reign, "tunc Walingforde et Oxeneforde et Wildesore caeterisque locis, castella pro regno servando compacta. Unde huic abbathiae militum excubias apud ipsum Wildesore oppidum habendas regio imperio iussum."⁵

The next question is, what were these castles? In a large number of instances there can be no doubt that they were the very moated mounts with appendent courts or baileys which Mr. Clark so persistently miscalled burhs. Sometimes, as at Nottingham, Exeter, Corfe, and

¹ "Intra moenia Guentae, opibus et munimine nobilis urbis et mari contiguac, validam arcem construxit, ibique Guillelmum Osborni filium in exercitu suo praecipuum reliquit." Ordericus Vitalis, ii. 166.

² *Ibid.* ii. 165. The *firmamenta* were the fortress now known as the Tower, and apparently that at the opposite end of the city called Baynard's castle.

³ *Ibid.* ii. 181.

⁴ "Rex itaque castrum apud Guarevicum condidit, et Henrico Rogerii de Bellomonte filio ad servandum tradidit. . . . Deinde rex Snotingheham castrum construxit, et Guillelmo Peverello commendavit. Haec Eboracenses ut

audierunt, extimentes maturata deditione vim declinaverunt, regique claves civitatis cum obsidibus dederunt. Ipse tamen, quia fidem illorum suspectam habuit, in urbe ipsa munitionem firmavit, quam delectis militibus custodiendam tradidit.

* * * * *

Rex post haec in reversione sua Lincoliae, Huntendonae, et Grontebrugae castra locavit, et tutelam eorum fortissimis viris commendavit." *Ibid.* ii. 184, 185.

⁵ *Chronica Monasterii de Abingdon*, ed. Joseph Stevenson (Rolls Series 2, London, 1858), ii. 3.

the castle of the Peak, the natural strength of the position, or its elevation, rendered unnecessary the throwing up of a mount or building of a tower, but in the majority of cases the fortress consisted of the formidable earthworks with which we are familiar. So far as documentary evidence goes, it is evident that wherever this class of earthwork originated, it was introduced into this country by the Normans. The Bayeux Tapestry depicts several notable examples in Normandy itself, and shows such a castle as actually under construction at Hastings. We have also notices of at least a score of new castles in Domesday Book, and at every one of these places the castle consists or consisted of a moated mount and appendent earthworks. Such castles do not belong to any known system of defence or offence among the Saxons, but are proved and known to be characteristic of Norman warfare. In Normandy itself they abound. They are found in this country in almost every place where a Norman lord fixed the *caput* of his fief, and, as Mr. Neilson has shown,¹ the numerous examples in Scotland are confined to those districts which were affected by the Anglo-Norman settlement under David I. (1124–52), Malcolm IV. (1152–65), and William the Lion (1165–1214). In Ireland, too, as Mrs. Armitage has reminded us, the moated mount is to be found “only in the English pale, that is, in the part of the country conquered by the Normans in the twelfth century.”²

There are also good reasons for supposing that these early castles were raised in the first instance with the especial object of rendering permanent the conquest of England. Such a scheme can only have been devised by the Conqueror himself, since, until his days, no one ruler was strong enough, or in a position to have raised, or caused to be raised, these numerous fortresses all over the land that enabled him to keep under control a hostile population.

Now a noteworthy point of interest with regard to these castles is their strategical position.

¹ *The Scottish Review*, October, 1898.

² *Proceedings of the Society of Antiquaries of Scotland*, xxxiv. 276.

Those that were associated with towns were usually placed athwart the line of the wall, like the Tower of London, and the *arx valida* of Winchester, or just within the wall, as at Exeter and Canterbury, so as at the same time to dominate the place, and provide for retreat were the castle attacked by the townsfolk. If the town were situated on a river, the castle was usually set where it could also command the waterway, as at York, Rochester, Bedford, Shrewsbury, Tamworth, Oxford, Wallingford, and Newcastle-on-Tyne.

Other castles, such as many of those on the Welsh border, were raised to guard the passes leading into Wales.

The strong fortresses of Lewes, Bramber, and Arundel, as clearly guarded the openings through the South Downs as did the castles of Guildford and Reigate those through the North Downs.

The sites of Pevensey and Hastings castles are expressly described by Orderic as having been occupied by Duke William at his first landing to serve as bases for his army and havens for his ships; and the castle of Southampton, and perhaps that of Chichester, probably owed its origin to the advent of additional forces for William after the Battle of Hastings.

The fortress of Carisbrook, which is described in the Domesday Survey in terms that show it was new, dominated the Isle of Wight, and William's own castle of Corfe, the Isle of Purbeck; while the castle of Rochester guarded the passage of the Medway, that of Windsor the waterway of the Thames, and the "new castle" in the North the passage of the Tyne.

There is one point concerning these early castles which is apt to be lost sight of, and even ignored, and that is the universal prevalence of the use of timber for their first defences. Not only were the earthen banks of the bailey or baileys crested with lines of vertical wooden palisades, but the great mount was also surmounted by a tower or stronghold of timber, with which the palisades of the bailey were so connected as to form one continuous line of defence.

Now a little consideration will show that this use of timber was dictated by the necessities of the case, since

the newly thrown up mounts and banks required a considerable time, varying of course with the nature of the soil, to consolidate before they could bear the weight of walls built of masonry. The use of stone construction in the Conqueror's time was accordingly confined, as may be seen at Exeter and Tickhill,¹ to the gatehouses, which were built from the first on the natural ground in a break purposely left in the enclosing earthworks. In a few instances, such as Corfe, Rochester, and the castle of the Peak, a naturally strong position was fortified from the first by walls of masonry, owing to the more usual earthen banks not being deemed necessary.

Such were the castles that were raised all over the country within a few years of the coming of Duke William; castles that from their very nature needed but a few weeks or even days for their construction; and when "destroyed," as we are told they occasionally were, could be as quickly restored by the renewal of the timber defences, the burning of which represented the destruction.

The earliest examples of the great towers of masonry, at Colchester and the Tower of London, are not earlier than 1087, and both are exceptional.² The majority of such towers were probably not built much before the reign of Henry II., to which period most of the surviving examples certainly belong.

¹ The Tickhill gatehouse is perhaps a work of the following reign.

² The early tower at Malling in Kent did not belong to any castle, but to a destroyed chapel or church of St. Leonard. Towers of like construction and

the same early date are attached to the cathedral church of Rochester and the parish church of Dartford. All three were probably the work of Bishop Gundulf.

**Proceedings at Meetings of the Royal Archaeological
Institute.**

February 4th, 1903.

Mr. HERBERT JONES, F.S.A., in the Chair.

Dr. A. C. FRYER, F.S.A., read a paper on "Fonts with representations of Baptism, and the Holy Eucharist," illustrated by lantern slides. The paper is printed at p. 1.

Messrs. RICE and STEPHENSON, Miss GRAFTON, and the CHAIRMAN took part in the discussion.

March 4th, 1903.

Sir H. H. HOWORTH, K.C.I.E., *President*, in the Chair.

Viscount DILLON, P.S.A., read a paper entitled "Notes on Armour," which will be printed in the *Journal*.

In the subsequent discussion Messrs. WALLER, BAYLIS, RICE, GREEN, and the PRESIDENT took part.

Notices of Archaeological Publications.

THE ARMOURY OF THE KNIGHTS OF ST. JOHN OF JERUSALEM,
AT MALTA. By G. F. LAKING, M.V.O. Crown 4to. Bradbury, Agnew
and Co. 1903.

The catalogue of the collection of arms and armour in the Palace, Valletta, Malta, prepared by Mr. Laking under the authority of His Excellency the Governor of Malta, is a welcome addition to the literature concerning armour now existing in Europe. As explained in the short but excellent introductory note, the armoury at Malta has, owing to various causes, comparatively little to attract the student of armour, but Mr. Laking has wisely arranged in the centre of the hall the really interesting portion of this otherwise numerically large collection of genuine though not very rich pieces of equipment. The volume is most liberally illustrated, and the editor's criticisms of the older attributions make it a reliable guide.

One is sorry to see that Nos. 244 and 245, the old colours of the 80th and 35th regiments, should be so far away from their proper resting places, Stafford and Chichester, or at least the Banqueting Hall, Whitehall, where in the charge of the Royal United Service Institution, as in Chelsea Hospital, so many regimental colours are well cared for.

The collection at Malta appears to surpass that in London in respect of comb morions and shields.

Elbow cop is as good a word as *coulre*, whatever that may be. La Rousse does not give such a noun, and we hope this is only a printer's error. Centuries and parts of them are safer references for undated examples than years, even when qualified by *circa*. But without cavilling, we should be grateful to Mr. Laking for the volume which adds so materially to our knowledge of the Maltese collection.

A HISTORY OF LANCASHIRE. By Lieut.-Col. HENRY FISHWICK, F.S.A.
London. Elliot Stock. 1902.

This is a cheap re-issue of the work published some years ago in Mr. Elliot Stock's series of Popular County Histories, and will be welcomed as placing within the reach of all a brief but very interesting history of the great county which has within the last two hundred years attained so important a position in the kingdom. After a brief description of the several hundreds, Colonel Fishwick describes the pre-Roman remains which have been discovered all over the county, and then states what is known of the works of the Romans, as illustrated by the roads, forts and other marks of their occupation, especially those at Manchester and Ribchester. The history of the county then follows in

regular order down to the beginning of last century, a multitude of illustrative details being given from the records in order to bring the condition of the people more vividly before the reader. The civil war of the seventeenth century and the Jacobite rebellions of the next are treated with special fulness. The history of the nineteenth century Colonel Fishwick does not profess to deal with, as being too vast for the limits assigned to him. A special chapter narrates the story of religion in Lancashire from the days of Paulinus and Wilfrid to the Tudor Reformation; thence onwards in its tumultuous progress amid the contentions of Catholics, Puritans and Quakers, down to about the year 1820, when apart from the old parish churches and their chapels of ease (about 260 in all) there were 77 Roman Catholic chapels, 68 Independent, 27 Baptist, 32 Unitarian, and 180 Wesleyan.

In addition to the new title page it would have been useful if a list of "errata" had been added in making this issue; for instance, Coniston Priory for Conishead occurs twice, John Caxton for William, and others might be mentioned.

A List of the principal Works published under the superintendence and sanction of the Council of the Royal Archaeological Institute.

THE ARCHAEOLOGICAL JOURNAL, published under the direction of the Council of the Archaeological Institute. Vols. I. to V. 8vo. 2*l*., cloth boards; Messrs. PARKER, Oxford and London.

Vols. VI. to XXV. (inclusive) may be obtained at the Office of the Institute, or through any Bookseller, price (*in parts*) 12*s*. 6*d*. a volume; price to Members, 4*l*. for the series in question (*in parts*), or at the rate of 4*s*. a volume, in portions of not less than five volumes. Later volumes, 7*s*. 6*d*. a part, or 1*l*. 10*s*. a volume; price to Members, 2*s*. 6*d*. a part or 10*s*. a volume; last three volumes published, price to Members, 5*s*. 6*d*. a part or 15*s*. 6*d*. a volume.

The General Index to the first 25 volumes of the ARCHAEOLOGICAL JOURNAL. Price 1*l*. 1*s*.; to Members, 10*s*. 6*d*.

THE WINCHESTER VOLUME: Memoirs communicated at the Meeting in 1845 (*out of print*).

THE YORK VOLUME: Memoirs communicated at the Meeting in 1846. Price 1*l*. 1*s*.; to Members, 15*s*.; very few copies remain.

THE NORWICH VOLUME: Memoirs communicated at the Meeting in 1847. Price 10*s*.; to Members, 5*s*.

THE LINCOLN VOLUME: Memoirs communicated at the Meeting in 1848. Price 10*s*.; to Members, 5*s*.

THE SALISBURY VOLUME: Memoirs communicated at the Meeting in 1849 (*out of print*).

THE OXFORD VOLUME: Memoirs communicated at the Meeting in 1850 (*out of print*).

THE BRISTOL VOLUME: Memoirs communicated at the Meeting in 1851 (*out of print*).

THE NEWCASTLE VOLUME: Memoirs communicated at the Meeting in 1852 (*out of print*).

THE CHICHESTER VOLUME: Report of the Proceedings of the Institute at the Chichester Meeting in 1853, with catalogue of the Museum (*out of print*).

Catalogue of the Museum of Antiquities and Works of Art formed at the York Meeting in 1846. 8vo. (*out of print*).

Catalogue of the Museum of Antiquities and Works of Art formed at the Edinburgh Meeting in 1836 (*out of print*).

MAP AND MEMOIR OF THE WATLING STREET, the Roman way across Durham and Northumberland, with plans of Stations and Camps; from a Survey made, by direction of the Duke of Northumberland, by Mr. MACLAUCHLAN, on the occasion of the Meeting of the Institute at Newcastle, 1852. Folio. Price 12*s*. 6*d*.; to Members, 9*s*. 6*d*. (*out of print*).

The Survey of the Watling Street may be obtained by Members with the SURVEY OF THE ROMAN WALL, made by direction of the Duke of Northumberland, by Mr. MACLAUCHLAN. Price of the Surveys, in cloth, folio, with two Memoirs, 8vo., 4*l*. 4*s*. (*not published*); very few copies remain.

MAP OF BRITISH AND ROMAN YORKSHIRE: Compiled by Sir C. NEWTON, K.C.B., M.A. Price 10*s*.; to Members, 5*s*. (*out of print*).

TABLE OF THE ANNUAL ASSAY OFFICE LETTERS: by Mr. OCTAVIUS MORGAN, F.R.S., F.S.A. (*out of print*).

LIST OF MEMBERS OF THE CLOCKMAKERS' COMPANY OF LONDON, from their incorporation in 1631 to the year 1732: by Mr. OCTAVIUS MORGAN, F.R.S., F.S.A. Price 2*s*. 6*d*.; to Members, 1*s*.

MEMOIR ON SCULPTURES IN LINCOLN CATHEDRAL: by Professor COCKERELL, R.A. (*out of print*).

MEMOIR ON LICHFIELD CATHEDRAL: by Professor WILLIS, F.R.S. (*out of print*).

ARCHITECTURAL HISTORY OF WORCESTER CATHEDRAL AND OF THE MONASTIC BUILDINGS: by Professor WILLIS, with Plans and Sections (*out of print*).

ON THE ORIGINAL PORTRAIT OF MICHAEL ANGELO, "Il Cavaliere Aretino": by Mr. C. D. E. FORTNUM, F.S.A. (*out of print*).

ARCHITECTURAL HISTORY OF CHICHESTER CATHEDRAL: by Professor WILLIS, F.R.S. (a discourse delivered at the Meeting of the Institute, in 1853), with an Essay on the Fall of the Spire; also Boxgrove Priory, by Rev. J. L. Petit, and Shoreham Church, by Mr. E. Sharpe, being Memoirs read at the Meeting (*out of print*).

OLD LONDON: being a selection from papers read at the London Meeting in 1866. Published by JOHN MURRAY, Albemarle Street. Price 12*s*.

ANCIENT HELMETS AND EXAMPLES OF MAIL: ILLUSTRATED CATALOGUE: by the BARON DE COSSON, F.R.G.S., and Mr. W. BURGESS, A.R.A. (*out of print*).

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Dec 12
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The first Meeting of the Session 1902-1903 was held on the first Wednesday in Nov., 1902; and such Meetings will be held at 20, Hanover Square, on the first Wednesday of the month (January excepted), November to July inclusive. The proceedings commence at 4 p.m. Any Member is at liberty to introduce a friend.

A desire has been expressed, by persons who have recently joined the Institute, to obtain the earlier volumes of the *ARCHAEOLOGICAL JOURNAL*, in order to become possessed of the complete series. The first five volumes, published by Messrs. Parker, London and Oxford, 1844-1848, may be procured through any bookseller. MEMBERS have special facilities in regard to the purchase of the subsequent volumes, VI. to LVIII. inclusive; also in regard to the Transactions at the Annual Meetings, and other publications of the Institute.

(See list of Publications, page 3 of this wrapper.)

The general Index to the first twenty-five volumes of the Journal, brought into shape by the late Mr. Burt, and completed by Sir John Maclean, may be obtained from the Secretary, price 10s. 6d.

Cloth cases for binding the Journal may be obtained at the office of the Institute, price 1s. each.

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THE EMPEROR MAXIMILIAN IN AN ARMOURER'S SHOP.

DESCRIPTION OF PLATE I. .

From the *Weisz kunig* of Hans Burgmair, representing the Emperor Maximilian learning the armourer's art and improving it. He is shown explaining to Conrad Seusenhofer, the court armourer (and maker of the fine engraved suit in the Tower of London), how to make breast plates of such temper that no arm can penetrate them. The picture gives a good idea of an armourer's shop with the forge, bellows and numerous stakes or special anvils for *repoussé* work. As further illustrating the subject we may note the following list of tools in the armourer's shop of John Blewberry in the year 1514 at Greenwich, "a vyce 13s. 4d., a great Bekehorne 60s., a small bekhorne 16s., a peyre of bellows 30s., a pype Stake 3s. 4d., a Crest stake 4s., a vysure stake 4s., a hanging Pype stake 4s. 4d., a stake for the hedde pecys 5s., two curace stakes 10s., four peyre of Sherys 40s., three platynge hammers 8s. Three hammers for the hedde pecis 5s. A creste hamer for the hedde peces 20d., two hammers 2s. 8d., two greve hammers 3s. 4d., one meeke hamer 16d., two pleyne hammers 2s., two platynge hammers 2s., two chesels w^t an helve 8d., a creste hamer for the curace 12d., two Revetinge hammers 16d., a boos hamer 12d., Eleven ffyls 11d., a payre of pynsors 18d., two payre of tongs 16d., a harth stake 6d., two chesels and six ponchons 2s., a wat^r trowgh 18d., a temperinge barelle 12d., one Andevyle 20s., Six stokks to set in the Tolys 10s. Sixteen doubles at 16d. every double 21s. 4d., eighteen quarters of Colys 6s. 9d. In alle £13 16s. 11d."

ARMOUR NOTES.

By VISCOUNT DILLON, P.S.A.

The following notes cannot be considered as original work, and I have merely put them together as I think it very often useful to assemble from many and various sources what has been said on any one subject. So much that is fanciful and unreal has been written about armour, its value as a defence and its large use, that it may be useful to see from contemporary authorities what was said and thought of it. The term armour may be applied to many forms of various materials which have at different times been used for the protection of man and his companion the horse. Without going into the most ancient instances of the use of armour, we may briefly consider some of the chief varieties of it, with its advantages, drawbacks and other limitations. I may repeat again, as I have often urged before, that the amount of armour worn by the many was much less than it has suited romancists and artists to present to us. And this excess is not confined to modern times as regards either writers or artists, for one cannot believe that in the old days armour was so universal, either for the foot or horse soldier, owing to its cost and many other reasons. Then the artist, as we see in illuminated MSS., has given much more armour to many of his subjects than they could pay for or carry. We are too apt, I think, to attribute a uniformity of equipment to certain dates, forgetting that it was not till quite modern times that any large number of arms, offensive or defensive, could be produced of one pattern. When the means of interchange of ideas on dress were much less than in later times, owing to want of means of communication between distant parts of the country, it is not likely that novelties however good spread very rapidly. One may see this in the wills which have been printed in

late years, where we find northern costume, civil and military, many months behind the fashions of the south. This is the case as regards countries as well as parts of a country. The armour of Italy at the middle of the fifteenth century was generally far ahead in completeness and elegance of that to be seen on English effigies or brasses of the same period.

As is generally known now, the earlier defensive garments consisted of metal head-pieces and quilted body armour more or less fortified by pieces of metal, bone or leather, the latter in both the raw and the moulded or *cuir bouilli* forms. As time went on the metal portion of the equipment increased in quantity till, for the richer wearers, the whole body was on occasions covered with metal. I say on occasions, for it was not possible to wear complete armour of metal for long nor when very active work had to be done. Immunity from hurt had to give way to ability to hurt others, and complete armour must be taken very often as only protecting the head, arms, body and legs to the knee. Of course for the lists and the exercises there, sometimes serious, often only sports, really complete armour was often worn, and not only complete armour but also additional pieces, while the metal for such business was often much thicker than for the field. For these occasions also there was often much more ornament in the way of gilding, engraving and embossing than for the hosting armour, as the real ordinary war kit was termed. These two points, increased thickness and richness, have of course contributed largely to the preservation to our day of much armour which never saw a battle, while the lighter and more practical stuff was less able to resist the ravages of time and rust, and exciting less interest, was allowed to decay or, as happened in some instances, to undergo a change of use, and sometimes ended its days on the blacksmith's scrap heap.

But this development of the metal part of the equipment concerned only the richer people and the higher class and better paid troops. The infantryman, whether archer or billman, continued as long as armour was worn by his superiors to wear various forms of the older quilted defences, improved no doubt as time went on, but

essentially of the same general principles as in the earlier days.¹

The Elizabethan jack was not very different from the jack stuffed with mail or horn of the fourteenth century, and here again its humble and unornamented nature has prevented this class of armour surviving to any extent to our day. It, like the bill, was probably utilized and worn out in civil life; there were no museums and few collectors, and they did not care for such commonplace objects as aketons, jacks, coats of fence, etc.

We know that English iron had not in the old days the position it now holds.² We have, it is true, fine specimens of English work in some of the many grates that were originally to be seen round tombs, so many of which have been destroyed, but certainly armour does not appear to have been an English speciality. In the case of the intended combat between Bolinbroke and the Duke of Norfolk in Richard II.'s time, both the parties sent to Italy for armour for the occasion, and in wills we find mention of foreign armour, as in 1399 Sir Philip d'Arcy bequeaths "*unam loricam de Milayne.*" In 1430 Wm. Stowe leaves "*unam loricam de Milan,*" and in 1485 Richard Scrope mentions "the harnes I brought from Frawnce."

Baron de Cosson has suggested that the armour which formed the model for the famous Beauchamp effigy at Warwick was no doubt Italian, and the comparison of the effigy with Mantegna's St. George at Venice strongly supports the idea.

Of course, though the best armour came from the continent, yet there were armourers in England, and in later times English swords were made perhaps as good as those that came from abroad. Anyhow we do not meet in early days with much notice of English armour.

¹ As illustrating the defensive power of the old quilted and padded garments, it may be mentioned that in 1901, with the powerful modern gunpowder in use, two rounds of case shot fired at a flock of sheep at 150 yards only killed one and wounded six of the animals, and these were struck on the head or legs. Where the shot struck the fleece no harm was done.

² In 1559, among Considerations delivered to the Parliament: That iron mills be banished out of the realm. Where wood was formerly sold at 11*d.* the load, by reason of the iron mills it is now at 2*s.* the load. Formerly Spanish iron was sold for five marks the ton, now there are iron mills English iron is sold at £9 the ton. Hatfield House MSS.

In 1396 the will of Symond Wynchcomb mentions six bacinettes of London make. In the 1438 Inventory of the Duke of Burgundy's property "*une paire de gantelés à la façon d'Angleterre.*"

These are a few of the instances I have met with of English-made armour. But we know that in 1355, 1386, and again in 1436, there were enactments against the London armourers raising their prices, and earlier still, in 1322, there were orders against armourers selling covered helmets before they were viewed.

In 1322 we find the following names of armourers, Roger Savage, Wm. le Toneler, John Tany, Robert de Shirwode, Richard Birdele, Thomas Carroun. But in the early sixteenth century, Henry VIII., who was a great amateur of military matters, arranged with his friend the Emperor Maximilian for the importation of German workmen. These men, known as the Almain armourers, were paid and kept by the king, who allowed them liveries. Besides these he had many other foreigners working for him in England, making arms and armour and casting artillery. In Elizabeth's time workmen from Nuremburg also were obtained, and some of these settled in the country, a few joining the Armourers' Company. In James I.'s time, however, these seem to have left the country or set up for themselves, and there was in 1634 but one German left, and he would not teach.

In Elizabeth's time, Jacob Topf, a famous German armourer, came over and worked for some time at Greenwich. To his hands we owe some of the best known armours now in England. The Hatton suit now at Windsor, a suit in the Wallace collection, one in the possession of the Company of Armourers and Braziers, one or two in the Tower, a fine suit at Wilton, and a very fine one at Appleby Castle, are all from Topf's anvil and hammer. In Vol. LI of our *Journal* I have noted under "an Elizabethan armourer" some of his work. However, he left England to occupy an important position at a German Court, and then Pickering, who copied his work, seems to have been the chief maker of armour. All this time the Government were importing Innsbruck metal for the good suits, and ready made armours from Cologne, Wesel, and other places. But, as I shall mention later

on, this ready made stuff did not come up to the standard either of what was wanted or what was good.

The civil war was the occasion for the practical use, and also the occasion for a great disuse of armour. When men had to fight and wear armour under the new conditions of warfare, it seems to have lost favour with most of those who had been accustomed to use it, and, except the helmet, armour was out of fashion. Artists, however, clung to it for its picturesque side, and so we have pictures of generals in armour who never wore anything but a breastplate and perhaps a metal *secrete*¹ in their felt hat.

Among the large purchases abroad by Henry VIII. of armour may be noted the following:—

- 1513. 5,000 Almain rivets or foot soldiers' armour from Milan.
- 1512. 2,000 Almain rivets, each consisting of a salet, a gorget, a breastplate, a backplate, and a pair of splints (short taces) from Guy de Portenary of Florence. In 1509 8s. had been paid for these, but in 1512 the price was 11s.
- 1539. 1,200 complete harness. These with carriage to London from Cologne cost £454 0s. 0d., about 7s. 6 $\frac{3}{4}$ d. each. 2,700 armours from Antwerp.

In 1561 there is a payment to John Willer of London, armourer, continually employed from April to November, concerning the transport of 500 corslets and 500 courriers from Cologne, etc., to Bremen and Hamburg for England, and bears out Sir John Smith's complaint in Harl. MS. 135. It may be of interest to note some of the places which were famous for arms and armour at various periods. Thus in 1520 Aquileia for helmets, Lombardy for haubergeons, *Fers de Glaive de Toulouse*, *Misericordes de Versy*, the three last items from the Inventory of Louis Hutin 1316; *Chapeaux de Montauban* 1466, and Henry VIII. is mentioned as wearing one on the expedition to

¹ The *secretes* or metal caps, some of them of skeleton form only, some hinged so as to fold up, were worn beneath the felt hats of the 17th century, though according to an engraving of the Siege

of Valenciennes in 1792 the metal protection is shown outside the felt hats of some dragoons, reminding one of the *Huvelles* of Agincourt.

France 1513; *Arbaleste de Catheloigne* 1471; bucklers from Barcelona in 1564; halberts from Sedan in 1580; darts from Biscay in Henry VIII.'s time; arquebuses and halberts from Metz.

As to *Epées de Bordeaux* Monsieur Giraud, keeper of the Lyons Museum, has shown in a recent work that the Bordeaux referred to was not that one so familiar to most people, *viz.* on the Garonne, but a small town in High Savoy not far from Aix les Bains, and one of many centres of steel and ironworks from very early days.

English armour, inferior as it was, seems sometimes to have been exported, as in July, 1595, when at the request of the French King, Ives Quermoller was allowed to transport out of the realm to Brest 50 armours with their furniture complete, and 100 pikes for the French King's service, on payment of the customs. (Hatfield MS.)

English bucklers and targets appear to have been thought well of, even by the Scotch, who are generally considered to have had a speciality of that class of defence. In 1525 Magnus writes to Wolsey that the 13-year-old James V. wishes much to have a buckler, and admires the English ones worn by Magnus's servants.

In 1559 the English ambassador, Randolph, writes to Sadler and Croftes, that they may do the Earl of Arran much pleasure by sending him a "tergette."

The handsome gilt and engraved buckler in the Musée d'Artillerie bears the English Royal Arms and probably belonged to Henry VIII.

The London Bucklers in the sixteenth century appear to have lived in Westminster.

Although I do not propose in these notes to deal with the many and various forms of armour which may be included under that term, but rather with plate armour, yet it may not be out of place to note briefly some of the materials other than plate, which have been utilized for defence of the body of man and horse.

Of quilted garments of linen or other textiles there were many in use at different times, as we see from funeral monuments, brasses, painted glass, illuminated MSS., and other ancient authorities.

Louis XI. we know directed that jacks or coats of defence

DESCRIPTION OF PLATE II.

From Royal MS. 16 G 5 in the British Museum, showing an armourer and a mail maker at work. The armourer is fashioning a bascinet on a stake or anvil, while the mail maker with his pincers is evidently closing the rivets of a hauberk or shirt of chain mail. The subject of armour making is one which very seldom occurs in illuminated MSS., and considering the numerous examples of most handicrafts represented in such works, it is rather curious to find so few pictures giving views of this no doubt common occupation in the middle ages.



ARMOURERS AT WORK.

should be made of 30–36 thicknesses of linen cloth, and sometimes a deer skin to be used in addition. We are told that in such a garment the wearer would float, and indeed one thinks of the cork jacket of the lifeboatman of to-day, when we consider what these 30 or 36 folds of linen would produce. One may try the effect by folding a napkin so as to have 36 thicknesses. Then there were the jacks stuffed with horn or with metal plates of which we shall speak later on.

But less cumbersome and hardly less protective were the portions of defensive equipment made from leather, either in its uncooked form as the leather jerkin and the buff coat; or in the *cuir bouilli*, *gepressden Leder*, *cuoio cotto*, etc. The former class included gauntlets and caps, and was used by the combatants of the lower orders in judicial combats, and may be said to have survived in the gauntlets worn by many mounted branches of the army. The *cuir bouilli* we know was used in Chaucer's time and onward for many years. In the Spitzer collection was a beautifully moulded cabasset or morion of this material, belonging to the sixteenth century; it is now at Berlin. Shields in all countries have been covered with leather, and, as we see in African tribes, are in use without any wooden backing even to this day. In Indian collections of armour are frequently seen semi-transparent shields, light and tough and ornamental withal.

Other materials were also occasionally used.

In 1380 we read of a palet of gold called the Palet of Spain, pawned by Richard II. This would be a headpiece. It weighed 100 nobles. (Riley.)

Gold mail armour is said to have been worn by the famous Yermak, who was afterwards drowned in the Tirtuish in Siberia owing to the weight of this same armour.

At Eisenach, it is said, was a suit of cast iron armour which belonged to Augustus the Strong of Saxony, but such a material was wholly unsuited for armour. In 1833 was found at Bryn yr Ellyton in Wales what was formerly supposed to be a gold breastplate, but Mr. C. H. Read has shown that it was probably a peytral for a horse.

Diodorus and Polybius speak of gold armour worn by

the ancient Gauls. In 1538 on the occasion of the great muster of the citizens of London we are told that "every man being of any substance provided himself a coat of white silk and garnished their bassenets with turves like cappes of silk set with ouches, finished with chains of gold and feathers, others gilted their harness, their halberds and pollaxes, some, and especial certain goldsmiths, had their breastplates, yea and their whole harness, of silver bullion." (Grafton.)

Then also the wicker headpieces with crosses of metal on them, the *huvettes* of the English troops at Agincourt, were in a degree armour. In the inventory of the Chateau d'Amboise, made in 1499, are mentioned, "*cinq ou six habillements de teste faiz de boys, les aucuns couvers a bandes de fer et de cuir.*" These look much like the *huvettes* of Agincourt.

In the inventory of Canon Arnoul de Halle, 1427, are mentioned "*1 huvette d'escaille et de plates,*" and another, "*de fier à visière.*" They are each valued at 12*d.*

Jazerant, chesserant, gestorne, gestron, gestrum, jestraunt, were terms for scale armour, the small scales being riveted to a foundation of canvas or stout material. The scales generally showed on the face of the garment or defence, and we find body armour, gorgets,¹ habergeons,² standards³ or neck defences, and even the camail⁴ of this class of armour.

1462—1469. J. Howard, Duke of Norfolk, a jestraunt of mayle.

1444. John Danby, *gestrum deargentatum*.

1498. Thos. Petyt, a jestorne of maylle.

1524. John Jackson, a gesteron covered with buckskyns.

Almain rivets occur so often in inventories, etc., and are so frequently misunderstood, that it may be well to explain that the term was used in 1512 for complete harness for a foot soldier, and according to a contract for supply, consisted of a salet, a gorget, a breastplate, a back plate, and a pair of splints (or short taces).

¹ Louis X., 1316.

² Will of Sir R. Salwayne, 1420.

³ Will of Thomas Packet, 1465.

⁴ French Royal Accounts, 1411.

In 1579 it is mentioned that Almain rivets are now out of use, and in lieu of them a corselett shall be found.

The rivets varied in cost; in 1509 they were to be had for 8s., in 1512 they were imported at 16s., and again in 1513 they were to be had at 11s.

They are sometimes spoken of as a set, at other times as a pair, and sometimes, as by Hall, as a rivet.

Animes occur often in documents of the sixteenth century, and consisted of armour formed of narrow horizontal *lames* or strips. In 1548 they are mentioned in France as "*corcelets ou animes*."

The name was a corruption of *lamine*.

Brigandines, breggoners, brekerners, bregance, brighanders, brigerdyns, *etc.*, were the various terms for the body defence which consisted of small overlapping plates of metal riveted to a foundation of canvas and faced with some textile such as velvet, silk, *etc.* The rivet heads, often ornamental and gilt, showed through the facing and gave the brilliant spotted appearance so often seen in illuminated MSS.

The brigandines were often costly and were not much lighter, if at all so, than plate armour, but they were flexible, and though the metal plates were thin, yet every part had two thicknesses of metal. Sometimes, as mentioned by Commynes, "*le duc de Berri et le duc de Bretagne chevauchèrent sur petites haquenées à leur aise, armés de petites brigandines fort légères pour le plus. Encore dissent aucuns qu'il n'y avait que de petits cloux dorés par dessus le satin à fin de moins leur peser, toutefois je ne scay pas de vrai.*"

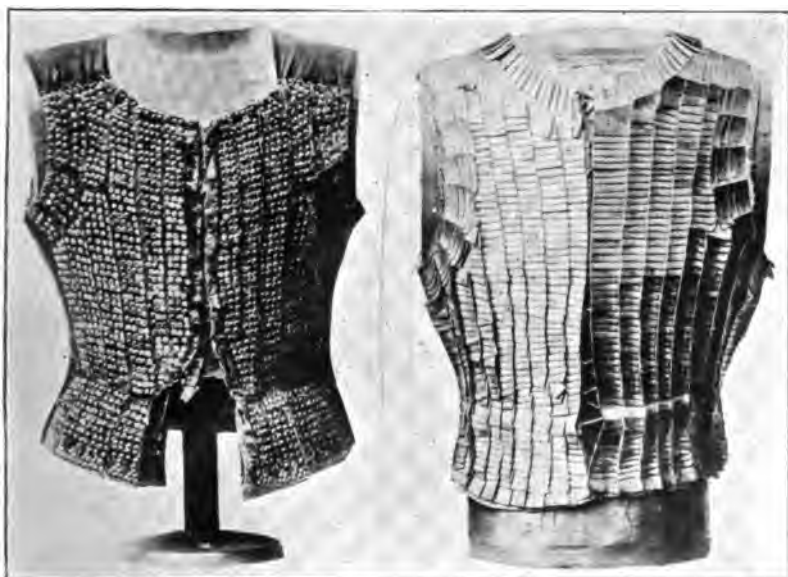
According to the statutes of the armourers of Angers, 1488, the brigandines proof against the large cross bow would weigh 26–27 lbs., those proof against smaller cross bows and long bows 18–20 lbs. These brigandines were to have leather between the metal plates (which were well filed at their margins) and the canvas.

In the accounts of Sir John Howard (Roxburgh Society) is a payment under the year 1465, "for 20,000 Bregander nayle, 11s. 8d."

From a note in Thomas Cromwell's account in 1537 we are told that £4 was paid to an Italian "for making a privy coat for my Lord," but it is not stated if the

DESCRIPTION OF PLATE III.

This plate shows the outside and inside of a brigandine now in the Musée d'Artillerie at Paris. The small gilt rivet heads on a ground of crimson velvet present a brilliant appearance, while the overlapping steel plates, seen on the inside, show the flexible but effective defences afforded by such an arrangement. In some instances the vertical series of plates are separated or rather connected by strips of chain mail. The garment, though perhaps not lighter than plate armour, is very flexible and not less protective to the wearer.



A BRIGANDINE IN THE MUSÉE D'ARTILLERIE, PARIS.

materials were included in the cost. The same account mention £4 for six northern jacks.

The so-called canvas coat of Sir Hugh Willoughby, now at Wollaton Hall, is an Elizabethan instance of a jack stuffed with horn, such as occurs in the Fastolfe Inventory of 1459. It is formed of stout canvas inside and out, with a layer of tow on each side of a series of horn discs. These discs, about 1 inch in diameter and $\frac{1}{4}$ inch thick, overlap each other tile fashion upwards. They each have a hole in the centre through which cord is passed, and also through the canvas and the tow in such a manner as to retain the discs in their places and to prevent the tow from getting into lumps. The cords appear on each face of the garment in the form of small triangles and lines. The cord used is blue, but in a portrait of Willoughby, now in the painted gallery at Greenwich, which shows him wearing such a jack, the cords are red, and merely look like lines of ornament. Probably many other pictures of the date also represent similar defensive garments, though appearing to be civil costume. The coat, to make it flexible, is composed of six panels, two for the breast, two for the back, and two small ones for the shoulders. The back panels and the hinder portions of the breast have the ordinary iron or steel plates without tow. The collar also has two rows of metal plates in the lower part, the upper half being merely quilted. It is curious that the metal defence should be for the back, and what would be less strong reserved for the front of this famous navigator. As in the case of the iron jacks, there were two thicknesses of the defensive material over the whole body. I am sorry I cannot say what the weight of this horn jack was, but clearly it was less than that of the Tower metal ones, which weigh about 18 lbs. each.

The Tower jacks are also made in panels, two for the breast, two for the back, and four smaller ones for the lappets below the waist. In the front there are 592 metal plates, and in the back 572, making a total of 1,164 for the whole garment. This may be compared with a note in the Shuttleworth accounts of 1588 published by the Chetham Society. In this we find $9\frac{1}{4}$ yards of linen and canvas to make a steel coat, and for a pound of slape (pitch) and some more 7s. 1*d*. Two dozen of thread

points for two plate coats 6*d.* ; 1,400 steel plates for a steel coat 8*s.* ; 1,650 steel plates for another steel coat 9*s.* 6*d.* From this we may reckon that the materials for such a coat amounted to 15*s.* 4*d.* to 16*s.* 10*d.* The cost of making up the coat would be about 3*s.* or 4*s.*, and so the whole would come to about £1. Of course the making of such a coat did not require any great skill, and its powers of defence were probably quite equal to those of the cuirass, when we consider the weak powder of those days. The weight might be more than that of the breast and back of plate, but the flexibility of the jack was very much in its favour.

In the British Museum is a cap of the same construction as the jacks but of smaller plates. It was found at Davington Priory, and is figured in Vol. XIV. of the *Journal* of the Institute. The plates are about $\frac{3}{4}$ inch square, and the appearance of the whole is very similar to that of the Tower jacks, in which the plates are about $1\frac{1}{2}$ inches square. In both cases the corners of the plates are cut off to increase the flexibility of the whole.

In the Lifruskammer at Stockholm is still preserved part of the dress of Gustavus Adolphus, and one of the interesting details of it is the series of steel plates or strips inserted (like stay bones) in the sleeves. These strips are about 6 inches by $\frac{1}{2}$ inch and would form a very fair defence to the powder of that day. Gustavus, we know, did not wear his cuirass at Lutzen on account of recent wounds which pained him, and the buff coat he did wear was insufficient protection against the pistol bullets at close quarters.

The term *nudus miles* often occurs in old documents, and Sir John Smith and others of his day speak of "naked men," both terms of course applying to the soldier without defensive armour. The pay of such was proportionately lower than that of the man who wore ever so little armour, for his efficiency as a fighting unit was in old times held at a low figure.

There is another expression of rare occurrence which is referred to in the reign of Elizabeth, and that is "a dry Pike." In 1589, under date September 7, are mentioned several orderings of soldiers employed in the late Portugal Voyage, such as harquebusier, dry pike, armed pike,

musqueteer. Of these the harquebusier's pay was 20s. per month, his coat cost 10s. and his caliver, flask and furniture 13s. 4d. The dry pike received the same pay, but his coat cost 13s. 4d., and his armament consisted of a dry pike, sword and dagger costing 8s. 6d. The armed pike had similar pay, but his coat cost only 10s., and his pike and corslet cost 25s. From this it seems that the dry pike wore no armour but had a costlier coat. This might well be, as it was his exterior garment, and not hidden by armour such as the arming doublet was. Anyhow it is an unusual expression.

As to the exterior of armour we know that it was often painted as we see in illustrated MSS., where it is sometimes coloured heraldically.

In 1322 in the will of Humphrey de Bohun occurs "*1 bacynette covert de cuir.*"

It was also sometimes tinned, as in the Dover Inventories of 1344.

In 1390-1 Bolinbroke's accounts, when on his travels in Germany, mention "*pro panno albo et blodio pro coopertura basenetti domini.*"

In 1571 the will of John Heworth mentions "a stele cap w^t a covering."

In 1578 "one stele cap with a cover" occurs in the will of J. Lawson, and in 1582 "stele caps covered with black," and "covers for stele caps" are noted in the will of Wm. Lee and T. Crowe.

In 1577 John Billingham bequeaths "a red stele cap covering."

In 1547 "Murrions covered with black blew yellow and crimson velvet and garnished with passemyne lace, also 2 covered with crimson satin" are mentioned.

In the Lancashire Lieutenancy Accounts of Elizabeth's time the archer's dress includes his "scull and Scottish cap to cover the same 3s. 4d."

According to Bulstrode the only armour Charles I. wore at Naseby was a steel hat covered with black velvet. This hat is said to be the broad brimmed hat now at Warwick Castle. Similar hats are shown in pictures as worn by the gentlemen of the Maison du Roi in the seventeenth century in France.

Again when Pepys went to see James duke of York

in March, 1664, when James was about to go to sea, he "saw him try on his buff coat and hat-piece covered with black velvet."

As to the body armour we know that the surcoat, often armored, was worn of different fashions for two or three centuries over the armour, and late in the fifteenth century we see the tabard form of surcoat. Henry VIII., who like many other Englishmen affected foreign fashions, is often mentioned as having silk garments over his armour. In Spain this garment often passed diagonally across the body; it was called a *Saya*.

When Henry VIII. landed in France in 1514 he is described as wearing over his armour a garment of white cloth of gold with a red cross. This custom seems to have been very common on the continent, and even later, in the portrait of George earl of Cumberland at Skipton, he is shown with a rich dress over his armour, which is visible only at the neck, forearms and legs.

In Vienna are several helmets covered with silks and satins, and at Stockholm in the Lifruskammer is a very richly embroidered helmet cover trimmed with pearls, *etc.*

Hazlerigg's "lobsters" were so called, according to Clarendon, on account of their bright shells, but we know that much armour in the Civil War time was painted and russeted, and our usual idea of a lobster is black or red. Hazlerigg's men were evidently not in red armour, so for want of more evidence we must suppose them to have been black. The black armour in the Dresden Armoury is pitched and is not bright. Though the idea of the Black Prince deriving his soubriquet from his armour is absurd, yet we are told that at the funeral of Henry V. black armour was worn.

A very important point with regard to wearing armour was the garment that was immediately beneath the metal casing of the man. Ordinary clothes were not suited for this, and Chaucer's knight, we are told, on his pilgrimage wore a gipon of fustian that was "alle besmotred with his habergeon." This was evidently a garment he was accustomed to wear beneath his mail shirt, and it had become soiled in consequence. Such a

coat was clearly good enough for a pilgrimage in mixed company, and the knight, like his horse, "was good but he was not gaie." Fustian we find mentioned as the under garment worn in Germany by knights about to engage in single combat, and in Lord Hastings' MS., when we are told how a man shall be armed at his ease when he shall fight on foot, his "hausement" was to be "a dowbelet ot fustean lyned with satene."

Fustian was used up till the discontinuance of armour, for the underwear. The head-pieces also had their lining, either fixed to a strap which itself was riveted to the metal, or else a cap worn inside the head-piece.

For tilting with the big helm of the fifteenth century a stout padded cap with a special arrangement of straps to keep it and the helm in proper relation to each other was used. Specimens of these exist at Vienna, and an interesting account with illustrations of the cap is to be found in Vol. II of the *Zeitschrift für Historische Waffenkunde* by the late Wendelin Boheim.

Among Henry V.'s retinue at Agincourt is mentioned Nicholas Brampton, "stuffer of bacynets."

In 1386, in the challenge of the Chevalier de Tournemine mentioned by Lobineau is "*un chaperon à mettre sous mon bacinet de drap de sendal ou de satin cousu et garni de fil et de soie.*"

"*Un bacinet à visière de fer ou de leton estoffé de cervelière de toile de chanvre et de lin de cendal de coton ou de soie.*"

In the Archives of Lille, 1414, is a payment :—

"For 2 *cottes d'armes* and for *cendal* to line the said *cottes*."

In the 1499 Chateau d'Amboise inventory with the so-called armour of Joan of Arc is mentioned "*un habillement de teste où il y a un gorgeray de maille, le bori dore le dedans de satin cramoisy doublé de mesme.*"

In the Archives of Lille, 1432 :—

"*Un demi paletot à mettre dessoubz les brigandines,*"

In the years 1519–1523 are frequent mentions of yellow and crimson satin for lining the headpieces, collars, pas-guards, *mains de fer* and gauntlets of Henry VIII. The lining consisted of carded wool which was quilted in canvas and covered with the satin. Of course these

linings have not lasted to our day, but there is in the Tower of London a tilting helmet of Sir Henry Lee's made in Elizabeth's time by Jacob Topf, and still having in it a felted lining which conforms to the shape of the head-piece. A perhaps earlier instance in the same collection is that of a light visored *salade* such as worn by mounted archers. The *salade* formerly in the de Cosson collection still has much of its canvas lining which was fastened to it, being sewn through small holes arranged in pairs along the margin of the metal.

In 1580 when certain light horsemen for Ireland were found by the authorities of St. Paul's, the doublets are mentioned as being of Milan fustian and lined in some cases with Holines fustian, in others with strong canvas. The sleeves of "mayle" at 14s. the pair were also lined with canvas.

Sir John Smith also advises that the soldiers' doublets should be made of fustian "according to the use of all antiquitie," or of chamois skinnies as well in respect of lasting, as that a man may arm better upon any or both of these things than upon canvas or anything that is more smooth and less woolly.

They should be narrow in the shoulders and so small in the sleeves and with so little bumbast that the vambraces of armed men might easily close together. The doublets should be cut flat upon the belly and waisted of like length to the cuirass, so that the armour may fit more just and flat to the body. But as "the collers of armours do bear the chief weight of the rest of the armour," he advises that both horsemen and foot should either have under-collars of fustian conveniently bumbasted to defend the "heveth and poise of their armours from the paining and hurting of their shoulders and necks," or else that the doublets should be "very well bumbasted in all that part under their collers both before and behind."

Here we have reference to the inconvenient strain on the shoulders felt at all times by armed men, and we may refer back to the early part of the century, when in the case of the earl of Northumberland about to proceed to France in 1513 we are told of "a trusyng boulster of white fustian for my Lord to wear about his myddell under his harnes for berryng up of the currese."

The earl also had "2 arming pateletts of white satten quilted and lyned with lynnene cloth for my Lord to were under his harnes." These pateletts or partlets were the "under collars" mentioned by Sir John Smith, and his arming doublets were of crimson and green satin with a "french styche" and white satin "quilted lozenwyse." Under his leg armour he had arming hose with "lapes" and for his feet arming "shone" black, white, red, yellow, and white leather covered with black velvet.

A propos of the damage to the underwear by armour, James Croft, writing to Cecil from Berwick, 1st July, 1559, mentions that "all who could provide armour were to have 2*d.* a day more than the 'naked man.' The Council supplied some captains on credit, others sent to Flanders at great cost. Every man that has a corslet has 9*d.* and the captain keeps 1*d.* till the armour is paid for, but when it is his (the man's) own he cannot keep it and pay for the harm it does his other apparel under 8*d.* a day."

Sir John Smith in his *Animadversions*, 1591, says: "no armed man should wear any cut doublets, as well in respect that the wearing of armour doth quickly fret them out and also by reason that the corners and edges of the lames and joints of the armours do take such hold upon such cuttes, as they do hinder the quick and sudden arming of men."

In 1622 Gervase Markham in his *Decades of Epistles of War*, says: "The shot should have on his head a good and sufficient Spanish morian well lined in the head with a quilted cap of strong linen and bound down with lined ear plates."

In 1643 the same author in his *Soldier's Accidence* says that the shot should have "good comb caps well lined with quilted caps."

Armour was in many cases made to measure.

In the will of Sir Ralph Bulmer, 1406, is mentioned "*armatura mea corpori talliata.*"

In 1470 Baltazar du Cornet, armourer at Bruges, delivers for the Duke of Burgundy "2 *cuiraches complètes faites à la mesure de Monseigneur*" for 48 livres each. And in the same year Lazarus de St. Augustin delivers "*un harnais complet fait naguère à la mesure de Monseigneur*"

et pour sa corps." In 1512 a jacket and hose of young Prince Charles (Charles V.) was sent to Conrad Seusenhofer to serve as a pattern for a suit of armour for the boy, then 12 years old.

The engraved suit of Henry VIII. in the Tower of London, made by the same armourer by order of Maximilian, was also made to measure. In 1520 Francis I. asks for an arming doublet of Henry VIII. so that he may send him a new kind of cuirass.

In December, 1532, Carlo Capello writes to the Signory, "The Duke of Norfolk requests me to have sent for him hither a perfectly impenetrable cuirass of those made at Brescia, and the Earl of Wiltshire wants another for himself and one for his brother, and the Treasurer and Donn Cromwell make a like demand, so that they will be 5 in all with their coverings, and they say they will pay for them." The writer encloses the measurements.

In February, 1533, the Doge and Senate write to Capello, "concerning the cuirasses we have given orders for them to be made at Brescia, and as soon as they can be got, we will courteously transmit them." The voting on this occasion was Ayes 171, Noes and Neutrals 7. The college to be authorized to disburse what shall be necessary for the making of five cuirasses, and to send them as a present to these noblemen in England who have asked for them, "the whole with the moneys of our Signory." Ayes 177, Noes 7, Neutrals 3.

In March, 1534, Chapuys writes to the Emperor and mentions certain visits of the Venetian ambassador to Court . . . perhaps to present the Duke of Norfolk, the Earl of Voulchier (Wiltshire) and his son (George), Master Cromwell and Treasurer Fen Villien (Fitz William) with *certainnes brigantinez secretez faictes des calliez (d'écailles) gorgioses et riches que la Signori de Venize leur à envoyé.*"

The above simple description of certain gorgeous brigandines of scale armour, that is privy coats of scale, has been translated by the late Senor Guyangos, as "gorgeous brigandines made of tortoiseshell and mother of pearl with secret drawers."

This is a good example of a translator's licence in



FIG. 1.

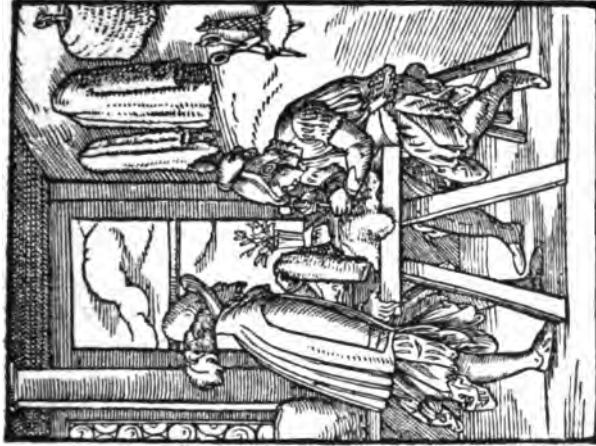


FIG. 2.

The two figures shown here are from Jost Ausman's book of trades, and represent the *Plainer* or armourer and the *Panzer macher* or mail maker. The former is beating into shape a piece of metal for some part of the armour, specimens of which are seen on the shop board, while the latter is apparently closing the rivets of chain mail.

dealing with two languages other than his own. These brigandines were evidently of proof against all arms.

Measurements were sent for these cuirasses to Brescia.

As to trials of armour with the consequent proof marks, a very interesting work by Monsieur Buttin of Rumilly, Haute Savoie, shows that the custom of putting proof marks on armour was an old one. In some cases the proof mark referred to the power to resist the quarrel or bolt of the large crossbow, in others of the smaller weapon. Later on the system was applied to armour showing its ability to resist the bullet of the musket, caliver, or pistol. On the Continent these proof marks are very common, and in collections in this country they may be seen in many instances. But with one exception to be noted later on, we do not find the marks of proof referred to with regard to English made armour. The expressions of high proof, musket proof, caliver proof, pistol proof, or merely of proof are very common in the writings of the authors of the late sixteenth and early seventeenth centuries, but we do not as a rule hear of the armour being tested, and it is only the opinion of the military author that we have to guide us beyond what we can judge from inspection of the armour.

The instance referred to of a trial of armour as to its ability to resist firearms is one related at full length in Vol. L of *Archaeologia*. To put it briefly, a gentleman of Shropshire claimed to have on his property iron which was as good for armour as that used by the English authorities, which was imported from Innsbruck, or as it was then called Isebrook. After some delay the Master of the Armouries of that period (1590), Sir Henry Lee, had a breastplate made of this Shropshire iron similar as regards all respects and weight to one of the foreign or as it was called Hungere iron. A trial was then made with two pistols with equal charges, and the result was that while the foreign metal only sustained a slight dent, the English metal let the bullet through and it tore off a piece of the beam on which the breast rested. Unfortunately we have no details as to the distance or the charge of powder, but it satisfied Sir Henry Lee that the Shropshire metal was not good enough, and the

importation of iron from Innsbruck went on into Charles I.'s reign. Other attempts had been made at various times to utilize the native product, and even in 1530 in the time of Henry VIII. his friend, Sir Laurence Starber, took over some of the English ore to Germany to see if it was available for use. Nothing is known as to the result of that inquiry, but it was doubtless unfavourable to our metal.

Among the armour in the Tower of London bearing proof marks may be noted the skull piece of a stout bascinet which belonged to Henry VIII. This bears the mark twice repeated, which means that the metal was proof against the large crossbow. The armour of James II. consisting only of cap, breast, back, and long elbow gauntlet for the bridle arm, bears on the breast and back bullet marks which are not the result of war but really proof marks. In this case the marks have been left alone, but on an engraved but very ugly suit of Louis XIV. in the Musée d'Artillerie¹ the proof marks have been treated as centres round which to engrave flowers and foliage, so as to rather conceal the practical object of the marks, much as the letter D on a deserter's breast has sometimes been amplified by tattooing so as to nearly quite disguise the original stigma.

In 1513 Richard Thyrkill writing to Henry VIII. from Antwerp, says he "can find no harness of the *fleur de lis* in any part of Brabant." A brigandine in the grand ducal museum at Darmstadt bears on each of the scales or small plates of metal the stamp of a *fleur de lis*. This stamp is shown in one case twice repeated on the same scale or plate in René de Bellevue's *Costume militaire des Français en 1446*. M. Buttin considers this double stamping an evidence of the brigandine being proof against the *arbalète à tour*.

This brigandine and a scale of it are also figured by Hefner, Pl. 62, Vol. II, also in Hewitt, III, 550.

THE CLEANING OF ARMOUR.

In early days we find many mentions of barrels for cleaning the chain mail.

¹ See Plate IV.

In the 1364 inventory of the donjon de Vostieza occurs,
 "1 *barellum ad forbiendum malliam*."

Dover Castle inventory, 1344, "1 *barelle pro armaturis rollandis*."

In *Syr Gawain*, the hawberk is cleaned by being
 "rokked."

Winchester College inventory 1413-1450, "1 *barelle pro loriciis purgandis*."

In 1467 the Howard Household book mentions 9d.
 "to an armerer at Pawles Cheyne for an harneys
 barelle."

In 1603 in the Hengrave Inventory, "one barell to
 make clean the shirt of maile and gorgetts."

In 1513, when the earl of Northumberland went to the
 siege of Terouanne, amongst his stores were, "4 lbs. of
 emmery for dressyng My Lord's harnes and oyle for
 dressyng of my Lord's harnes." He also took "a quarter
 of, a hide of garnysshinge lether, 200 white armyng
 bokylls and a thousand armyng nayles for mending my
 Lord's harnes." Besides these "a payre of nyppers, a
 payre of pynsores, a pomyshe (a piece of pumice stone) 2
 fylles, a small stithe, a hammer and all other stuffe and
 tools belonging to an armorer." Eight yards of white
 "blaunkett" were used "for trussing of my Lord's harnes
 in."

In 1520, 12d. a piece was charged for cleaning Almaine
 rivets brought from Calais, and 4d. per suit for new
 buckling, leathering and mending.

In 1564, 5d. was charged for cleaning each shirt of mail
 and 2d. each for sleeves.

The keeping clean of armour used at sea appears to
 have been dealt with differently, for in 1564 there are
 payments for painting not only headpieces but also
 corslets or body armour at 5s. the suit, as "by reason of
 the salt watér they will by no means be kept clean except
 they be blacked."

In Lansdowne MS. 73 is a petition by William Poore
 "that his remedy for preserving armour from pewtrifying
 kankering or rusting might be employed." However, he
 does not tell us how this was effected.

1617. Wolfen Miller, John Caspar Wolfen, and John
 Miller applied for a patent for 21 years "for a certain oyle

to keep armour and armes from rust and kanker," for £10 per annum.

In the Wardrobe expenses in Prussia of Bolinbroke earl of Derby. 1391-1393. Printed by the Camden Society.

fol. 32. *pro j cofre. . . . ad imponendum scuta domini xvij scot.*

f. 33. *pro j house pro scuto domini. . . . ix scot xijd.*

f. 17. *pro panno albo et blodeo. . . . pro cooperatura basenetti domini una cum factura eiusdem vjs. viijd. st.*

f. 15. *pro mailez pro plates domini vjs. viijd. st. pro 1 par bowges pro legg harneys domini iiij. scot.*

f. 40. *pro 1 brestplate domini purgando ibidem iijli. vjs.*

It is also mentioned that there was beside the "*cofre ad imponendum scuta domini*" also a "*hous*" or covering for the banner and another for the pennon.

At Henry VIII.'s death there was at Greenwich "a buckler of steele painted, in a case of leather."

In 1472 the Chronicle of Troyes mentions that French men-at-arms were forbidden to carry their arms in paniers. But about the same date in the description of some of the famous *pas d'armes* in which Jacques Lalain took a part, the armour of the combatants was brought into the lists in paniers on horses.

In an engraving of Charles I. by Wm. Hole, an example of which is in the British Museum (see reproductions 1901), we see a box made specially for the holding of a breast and back plate.

Of the actual weight of armour we can only judge by suits now existing, and even then allowance must be made for small deficiencies, as in the case of leather straps, not only those visible but also those fastened by rivets near the margins of certain parts, and to which linings of quilted material were attached. These linings of course could be detached without interfering with the rivets.

The engraved suit of Henry VIII. was for the field and without the gauntlets (which have been lost) weighs 63 lbs. 11 ozs.; of this 9 lbs. 3 ozs. represents the helmet. The suit of the Earl of Worcester weighs about 103 lbs.,

and of this the helmet weighs 11 lbs. The burgonet and buffe for this suit is 10 lbs. 6 ozs. The Leicester suit, which is for the tilt yard, weighs 73 lbs., and the extra pieces 16 lbs. 6 ozs. The helmet is 8 lbs. 14 ozs. The suit of Sir John Smith, parts of which are at Windsor, weighs 55½ lbs., the helmet being 8 lbs. 11 ozs. The Charles I. gilt suit weighs 78 lbs., and of this the helmet is 10¾ lbs. I have taken these suits as they cover the wearer from head to foot, and I note the weight of the helmet as being that which the man's neck has to bear.

The ordinary morion of Elizabeth's time weighed about 3 lbs., the "pikeman's pott" of the civil war about 2¾ lbs., and the horseman's barred helmet of the same period about 5½ lbs.

The Elizabethan soldier's jack weighs about 18 lbs., and the rich brigandines one sees in foreign armouries were about the same. These, however, rarely had sleeves, and so were not so irksome as chain mail shirts, which though not so heavy were a great drag on the wearer.

Sir John Smith (1591) speaks of the disadvantages of the system in which the rerebraces and vambraces were fastened by points to the arming doublet or jacket, whereas the armour which had the arm defences dependent on pins at the sides of the gorget made the weight much less cumbersome. In the Duke of Northumberland's "boulster," page 112, we see an endeavour to transfer the burden usually pressing on the shoulders to the hips.

Leg armour when worn, and it was but seldom carried, must have been a severe drag on the wearer. We see that the cuissards were hung by a forked strap to the waist, and the horseman's cuissards, which were necessarily long to allow of the bent legs on horseback, would, when the wearer was dismounted, much cripple his movements. Hence we find the cuissards made of two or three sets of lames which with turning pins could be attached to each other for mounted use, and for dismounted service could be separated so as to leave the upper portions as short taces, while the lower legs would be cased in long boots.

The horseman's *salade* figured by Hefner, and now in the

Tower, weighs 3 lbs. 2 ozs. Baron de Cosson's similar but unpainted visored *salade* with some of its lining weighs 5 lbs.

The Venetian *salades* also in the Tower resembling the old Greek helmets and all three bearing armourer's stamps, weigh from 5 lbs. to 5 lbs. 4 ozs.

The Italian helmets with semicircular shades over the eye openings, said to have been worn in 1602 by the soldiers of Brunalieu, weigh about 10 lbs. each. The combed morions in the Tower weigh $2\frac{1}{2}$ to $3\frac{1}{2}$ lbs.

The Commonwealth "potts" are about 3 lbs. each. A so-called morion weighing 9 lbs. is evidently not a head-piece, but a "double" or metal last on which to close the later headpieces formed of two pieces of metal, the edges lapped one over the other and riveted. The light "secretes" or skeleton metal linings for felt hats weigh about 5 ozs. each.

In 1627 one Whetstone had a project to make armour "lighter and as good as proof," but we are not told how it was to be effected.

The weight of armour more than once has proved a source of danger and death to its wearer.

In 1526 Louis, king of Hungary, fleeing from the battle of Mohatz, when attempting to cross the Duno (? Danube) his horse fell under him, and he, overcome with the "poiz" of his armour, was drowned.

S.P.D. 260, 1, IV, p. 2.

And after Lord William Howard's wedding, 29th June, 1536, a letter to Lord Lisle tells how after a sham fight on the river, "a gentleman named Gates being in harness tried to leap into another boat and fell short and was drowned." The writer of the letter remarks, "men did not marvel greatly that knew him, of his misfortune, for he was so great a swearer." It is probable the weight of his armour was more directly the cause of his death than his bad language.

In 1533 Caesar Ferramosci writes to Henry VIII. that the Emperor sends him six Spanish horses partly broken in to heavy armour.

The weight of armour was utilized in one instance that we may mention. On the voyage of the Portugal expedition in 1589 Sir James Hales, the Treasurer to the

expedition, died at sea, and instead of the shot in the hammock of later times, he was lowered in his armour into the sea. This is represented on his monument erected in Canterbury Cathedral by Richard Lee, who married his widow.

WHAT COULD BE DONE WITH ARMOUR ON.

At Troyes in 1380 an English squire, a native of the Bishopric of Lincoln, an excellent man-at-arms, with his lance in his rest, and his target on his neck, made his horse leap over the bars of the barriers, and came to the gate where the Duke of Burgundy, surrounded by the French nobility, was, who looked on this enterprise with amazement. However, he was unable to return as he intended, for he received a blow from a spear which felled his horse and killed him.

Froissart.

At Noyon Sir John Assueton (? Seton) when armed dismounts, and spear in hand leaps over the barriers. After fighting for more than an hour and wounding two of his opponents he again, spear in hand, leaps over the barriers, and still armed as he was jumps up behind the page on his courser, and calling to the French, "Adieu, gentlemen, many thanks to you," he rides off to his companions.

Froissart, I, ch. 285.

Henry V. when courting Katherine, says, "If I could win a lady at leapfrog or by vaulting into my saddle with my armour on my back," and he evidently claimed to be able to do so. Monluc, speaking of Count Pedro d'Apport or de Porto, says he was "*un des plus dispos hommes d'Italie . . . il n'y avoit cheval si grand pourveu qu'il peust prendre l'arçon qu'il ne se mist en selle armé de toutes pièces.*" The Chevalier Bayard also, when captured at Milan by Ludovico Sforza, was presented by him with his horse and arms, and he, though armed, "*monta sur son cheval sans mestre pied à l'estrief.*"

Louis XII. rode so well that "*pour saut ou rouade que fit son cheval,*" one would not hear a piece of his armour shake.

At Arras in 1446, Galiot de Balthasin, who was *armé*

de tout, la cotte d'armes au dos, when he entered the lists leaped clear out of his saddle as lightly as though he had on a pourpoint only. O. de la Marche.

At the end of the sixteenth century there was a great division of opinion as to the size and advantages of armour. Many writers spoke strongly against the wearing of it, alleging that it distressed the men and was not sufficient defence against fire arms to warrant a continuance of the practice of wearing it. On the other hand, equally weighty authorities declaimed against the increasing dislike to armour, and quoted reasons for its being mentioned as the soldier's costume. From the following extracts it would seem as though the men of the armour-wearing days were stronger than the later race, much as Bishop Latimer complained of the inferior bowmen of his day as compared with the men of the fifteenth century.

La Noue writing 1575-1590 says, "Moreover as there is good reason owing to the violence of musketry and pistol fire, to make armour more massive and of better proof than formerly, this has been carried so far that most men are laden with anvils rather than covered with armour. The defensive armour of nowadays is so heavy that at thirty-five years of age a gentleman has his shoulders quite crippled by such burdens. In days bygone I have seen the late M. d'Eguilli and the Chevalier de Puigressier, worthy old men, continuing for the whole of a long day marching at the head of their companies, whilst nowadays younger captains would or could not last for two hours under similar conditions."

We may now note instances of armour failing to protect the wearer, and it was not so uncommon as the stoutness of mail would lead one to expect.

Froissart notes in 1360 that at Chargny the Lord of Mucident was mortally wounded by a stone which passed through his armour.

At the Chateau d'Amboise was preserved a sword said to have belonged to Jean de Brézé, with which he had cut off the hand of a man-at-arms with the canon or vambrace and the gauntlet.

At the siege of Nantes (1380) Sir Thomas de Roddes, a knight from Germany, was struck by an arrow which

pierced quite through his helmet, of which wound he died three days after. Froissart, II, ch. 60.

A few days later an English knight, Sir Hugh Kitiel, died from a blow on his helmet from a bolt.

At a tournament at the same place the Lord de Pousanges received such a stroke from a lance that it pierced through the mail and steel breast-plate and everything underneath so that the blood gushed out.

In a joust between Nicholas Clifford and John Boucmel at Chateau Josselin, Clifford's lance slipping off the breast-plate pierced the camail of good mail, and entering his neck cut the jugular vein so that Boucmel died.

Heliot de Calais was knocked off his horse by a violent stroke on the throat piece with a spear whose broad point was as sharp and fine as a razor. This iron cut through the throat piece as well as all the veins. He died shortly after. Froissart, II, ch. 2.

When Richard earl of Warwick jousted with a mighty duke for his lady's sake, the travelled Englishman sent his spear half a yard through the duke in the presence of the Emperor Sigismund, as we see in John Rous's life of the earl, Cott. MS. Julius E. IV.

In 1504 at the jousts in Paris on the arrival of Anne of Brittany, François de Maugiron struck Supplanville so sharply that the lance went clean through his body and he fell dead.

In 1414 at the siege of Soissons by Charles VI., Hector Bastard de Bourbon "*fut navré d'une flèche parmi le gorgerin qui fut faulcé tot oultre tant que le fer de ladite flesche entra dedans la gorge de Messire Hector, de laquelle bleicheure il alla de vie à trespas.*"

In 1467, at the combat between the Bastard of Burgundy and Lord Scales, Ollivier la Marche says he saw afterwards Lord Scales' armour, on which the Bastard had made "*de grandes faulcées de la dague de dessous de sa hache.*"

1525. "The king with his sword poynt and edge abated had almost cut his (Sir Anthony Browne's) poldron, his strokes were so great." Hall.

At the battle of Marignan Francis I. was in great danger, according to Brantorne, for "*la grande buffe lui fut percée à jour d'un coup de picque.*"

Patten mentions that at the battle of Pinkie, 1547, Sir Thomas Darcy "was struck glancing on the right side with a bullet of one of the (Scotch) field pieces, and thereby his body bruised with the bowing in of his harness."

"p. 166. *Nos gens d'armes portoient en ce temps la de grands coutelas tranchans pour couper les bras mailliez et destranger les morions.*" Monluc, 1521-1547.

Sully mentions that at the assault on the great trench at St. Catherine, he was twice thrown to the ground, his halbert broken and his armour loosened and broken in pieces. See also Vol. LV of this *Journal*, p. 301, showing the difference in strength between tilting and hosting harness.

At the siege of Rouen in 1591 "Captain Powre was shot with a chayne bullet which fell so flatt upon a bombast doublet that it entered not but bruised him much."

"At Terrouane Monsieur de Plessis, lifting up his sword to strike, was with an arrow shot at the arm-hole through his gusset of maile and there slaine."

Sir J. Smythe, p. 34.

Lord Brook was shot with a musket ball through the visor of his helmet, at Lichfield, on St. Chad's day, 1643. The helmet and breast and back are now at Warwick Castle. The breast has a placate with two bullet marks on it.

The murder or execution of Monaldeschi at Fontainebleau, November, 1657, is another instance of the failure of chain mail to keep out a sword point. He had on a shirt of mail weighing 9 or 10 lbs., and one of the men who killed him found that his sword was blunted by the mail, but it went through all the same, as may be seen to this day.

DISUSE OF ARMOUR.

In October, 1524, there was a proclamation forbidding the wearing of armour and weapons in the King's Palace or Hall of Westminster, except by the Sheriff of Middlesex, the Warden of the Fleet, and their officers.

Sir James Crofte, writing to Cecil from Berwick in July,

1559, says that "at present the rarest thing at a muster is a naked pike or an harquebusse without a morion."

At the capture of the Zutphen forts, October, 1586, Edward Stanley, who was the first man on the breach, is mentioned by Leicester as "being all in yellow saving his curatts."

At the assault on the fort near Wesel, when Vere attempted the assault by escalading, it is mentioned that there were several broken heads, for the day being sultry the soldiers had left their morions behind. However, this was remedied the next day.

The Fighting Veres, p. 168.

In the orders for the musters, March, 1590, it appears that the soldiers had refused "to wear and carry their armour from the towns where they dwelt, so that the constables and other the owners thereof have been driven sometimes to carry the same in carts and sometimes in sacks upon horses (a matter both unseemly for soldiers and also very hurtful unto the armour by bruising and breaking thereof, whereby many times it becometh un-serviceable)." It was therefore ordered that every soldier "at all musters and trainings shall have over and beside 8*d.* a day for his wages, a penny a mile for the wearing and carriage of his armour and weapon and other furniture, so that it exceed not 6 miles, *etc.*"

Hatfield MSS,

In September, 1596, on some troops being sent from Lincolnshire into Ireland, it is stated that "because in every employment we find such loss of armour as is very chargeable to the countries, bonds shall be taken to the double value of the armour delivered, of the captain or lieutenant receiving the soldiers, to see restitution made of the armour, or to make good proof by witnesses, how the same is wasted or lost in Her Majesty's service."

Sir John Smith in the proeme to his *Discourses*:—

"But that which is more strange, these our such new fantasied men of warre doe despise and scorne our auncient arming of our selves both on horseback and on foote sayinge that wee armed ourselves in times past with too much armour, or peeces of yron as they terme it. And therefore their footmen piquers they doo allowe for verie

well armed, when they weare their burganets their collars their cuirasses, and their backs, without either pouldrons, vambraces, gauntlets or tasses. Their Horsemen also and themselves serving on horseback with Launces or any other weapon, they thinke verie well armed with some kind of head-peece, a collar, a deformed high and long-bellied breast, and a backe of the prooffe, but as for pouldrons, vambraces, gauntlets, tasses, cuisses and greves they hold all for superfluous. The imitating of which their unsoldierlike and fond arminge, cost that noble and worthie gentleman Sir Philip Sidney his life, by not wearing his cuisses, who in the opinion of divers gentlemen that sawe him hurt with a musquet shot, if he had that day worn his cuisses the bullet had not broken his thigh bone, by reason that the cheif force of the bullet (before the blowe) was in a manner past."

Sir Richard Hawkins, *Observation of, in his voiage into the South Sea*, 1593 :—

"I had great preparation of armours as well of prooffe as of light corsletts yet not a man would use them but esteemed a pott of wine a better defence than an armour of prooffe. . . .

"I have known many bred in cold countries in a moment complain of the weight of their armes that they smother them and then cast them off chusing rather to be shott through with a bullet or lanced through with a pike or thrust through with a sword, then to endure a little travaile and suffering."

Sir John Smythe's *Instructions, Observations and Orders Militarie*, 1595 :—

"In the Camp and Armie at Tilbury 1588. . . . I did see and observe so great disorder and deformitie in their apparrell to arme withall, as I saw but very few of that army that had any convenience of apparel, and chieffie of doublets to arme upon, whereof it came to passe that the most of them did weare their armors verie uncomelie uneasilie."

Edw. Davies in 1619 mentions the shot, *i.e.* the men with fire arms, being loaded with "a heavie shirt of male and a burganet, by that time they have marched in the heat of summer or deepe of the winter ten or twelve English miles they are more apt to rest than readie to fight."

K

Markham in his *Souldiers' Accidence*, 1625 :—

“As for the pouldron or the vant-brace they may be spared because they are but cumbersome.”

Edmund Ludlow at the battle of Edgehill, 1642, getting through a gap in a hedge and being dismounted in the attempt :—“I could not without great difficulty recover on horseback again being loaded with cuirassiers arms as the rest of the guard also were. . . .

“The night after no man nor horse got any meat that night, and I had touched none since Saturday before, neither could I find my servant who had my cloak, so that having nothing to keep me warm but a suit of iron, I was obliged to walk about all night, which proved very cold by reason of a sharp frost.”

This is one of the very rare instances of cold rather than heat being an accompaniment of armour wearing.

Cruso, *Militarie Instructions for the Cavallrie*, 1632, says :—

“Captain Bingham in his Low Countreie exercise appointeth him (the Harquebusier) a cuirass pistoll prooffe, which condemneth the late practice of our trained Harquebusiers to be erroneous which have wholly left off their arms and think themselves safe enough in a calf's skin coat.”

In April, 1639, Edmund Verney writes :—

“I believe there is never a long gauntlett sent Let Hill make one with all speed he can possibly, for it will kill a man to serve in a whole cuirass. I am resolved to have nothing but back, breast and gauntlet. If I had a pott for the head that were of pistol proof it may be I should use it if it were light, but my whole helmett will be of no use to me at all.”

The “pott” was sent, but as it did not fit he kept it to boil his porridge in.

Turner's *Pallas Armata*, 1670 ; speaking of the captains and lieutenants who in former times marched with a headpiece, a corslet and a gorget, the captain having a plume of feathers in his helmet, the lieutenant not, “now the Feathers you may peradventure yet find but the headpiece for most part is laid aside.”

While armour for many reasons was going out of use earlier in some countries than in others (as for instance

in England, while in Spain it was still used), there was another and striking circumstance connected with its disuse. As Baron de Cosson has pointed out, the art of making the crown of the helmet in one piece, or at all events to look like one piece, seems to have been lost. The potts and cavalry helmets of the seventeenth century generally have the two pieces of which the crown is composed lapped one over the other and riveted. This will be seen in most late headpieces. Then the taces, which were formerly of several lames or strips of metal allowing plenty of play for the movements of the legs, later on begin to be of one piece each. Sometimes a pretence is made of there being several lames by embossing lines to give this appearance, and by a plentiful use of "*clous perdus*" or false rivets. That such was the case not only in common armour but also in better stuff, may be seen in the boy's suit of Charles I. at the Tower in which both these features appear. It is of French make, probably by Petit of Blois, from whose workshop came a very similar suit in the Musée d'Artillerie. Then again the foot defences, which no doubt were getting more than ever out of use, but still were worn in the tilt yard, were constructed on a weak principle. The old solleret had a series of arches protecting the instep and overlapping downwards, next came an arch across the tread of the foot, and then the toe arches overlapping upwards. In the suit given to Prince Henry by the Prince de Joinville all the arches overlap downwards. Many other points of workmanship besides the want of artistic elegance show how much armour was going down. If we compare a suit such as we see in the Beauchamp effigy in Warwick, made in 1451, with the engraved suit given to Louis XIV. in 1688 (see Plate IV), the contrast is very strong, although the latter is the work of a Brescian armourer, Garbagnaus, and bears on it proof marks which have been disguised by being made the centres of floral ornament, as shown by M. Buttin.

Sir John Smith also complained of the inferior armour imported.

Harl. 135, f. 96.

"Therunto I answer that true it is that the long peace that we have had till within these 15 or 16 yeares past

DESCRIPTION OF PLATE IV.

This plate shows how much armour of later times fell away from earlier examples. That of Erzherzog Sigismund of Tyrol, about 1470, was the work of a Nuremburg armourer, and the elegance and conformity to the human figure will be at once noticed. The long toe pieces are of course exaggerations like the civil costume of the same period, but the whole is graceful in design and adapted for free movement of the body and limbs. The armour of Louis XIV., made in 1688, though richly engraved and, as its proof marks show, of excellent material, cannot be considered as anything but clumsy and ugly. Although the work of an Italian artist, Garbagnaus of Brescia, and a present from the Venetian government to the Roi Soleil, it has more the appearance of an arrangement of stove pipes than of a panoply for a king.



ARMOUR OF ARCHDUKE SIGISMUND OF TYROL, 1470. AND OF LOUIS XIV.
OF FRANCE, 1688.

did bring a great decaye in armors and weapons throughout the Realme, but that armors and weapons of late yeares boughte and provided in all the shires of England by the Musterm^r orders were reduced and brought to so great pfection and goodness as those gentlemen do write, the same is by them greatly mistaken. For that verie fewe or none of the corslets of all the shires throughout England are of Ausgburge or Newremburg which are the best stuffe and best formed of all other ordinary sale armour made in Germanie, but they are all made at Cullen, Wesill or other townes in base Dutchland of the most common sale and baggage stuffe that ever was put in armo^r, and manie of them of S^r Thomas Croslands old provision from Cullen w^h of all others is best cheape and worst. Most of all w^h sorts of armour have their Burgonets so shallowe for armed men to weare their collers so shallowe in depthe and straight in the necke, their cayrasses backs in the lower parts of them verie broad and wide out of all proportion, and thereof all the poulthrons of those armours are very slante, doe lacke compasse and proportion, and the vambraces too shorte and altogethor without any gauntlets, their tassess also and all the rest of the peece of their armour ill leatherned, nayled and of ill forme. Of all which imperfections it cometh to passe that the soldiers do find themselves so uneasily and unfitly armed, how fitt soever their arming doubletts be that they cannot use and handle their weapons in the fiede with such dexteritie as soldiors ought to doe, and as for piques they are of divers lengthes and the most of yerne not above 14 or 15 feete longe, and then with all in wood so great and heavie as no soldiers can use them as they ought to doe, and as for their calivers they are of divers heightes and lengthes and fewe of them ranforced backwards as they ought to bee and so likewise their mosquets that they so muche talke of are of divers heightes in their bores and many of both those sorts of weapons of fire have great imperfections in their skruess pans serpentines and sears as also that the cannons of guns are not straight forged nor truely boared in such sorte as in 100 mosquets and calivers a man shall scarce find five without those faults and imperfections and divers other which I omit."

In most collections of armour one sees some suits for boys, not fancy ones, but suits on a smaller scale than for men. It was but natural in the old days when princes and others appeared in the battle-field at an age when they would now be at school, that some provision should be made for their safety, and moreover that they should early in life learn to wear armour in a soldier-like way. Accordingly we find in Madrid some fifteen boys' suits, *armaduras de niños*, two of which were for the prince, later Philip III., and a tourney suit for Don Balthasar Carlos.

At Vienna is a suit attributed to Philip I. of Castile, but though it is fit for a boy of his age when it was made, namely, six years, Boheim doubts the accuracy of the attribution. There is another which was begun but never finished for the youthful Emperor Charles V.

In Paris are many boys' suits but with no special attributions.

In the Tower are two boys' suits which are of undoubted attribution. One, a richly ornamented suit given to Prince Henry, son of James I., by the Prince de Joinville. It is of rich ornamentation, but ugly and not very practical in construction. This prince had five suits given him, and we are told of one of them that it cost the donor, Sir Henry Lee, K.G., £200. The prince was then fifteen years old, and Mr. Chamberlaine, who mentions the gift in a letter, remarks that the suit "within a year or two will serve his turn neither in jest nor earnest." Another suit of this prince, but of later date, is at Windsor Castle, and was made at Greenwich, but not paid for at the time of Prince Henry's death.

At the Tower is also an interesting suit given to Charles I. when prince and about twelve years old. It was probably made by Petit of Blois, and shows us the armour of the cuirassier of that period. By taking off the leg and arm defences and substituting a pikeman's pott and short taces the suit serves for foot armour. The target of the suit is at Windsor.

Many of us know the charming portrait of Charles II. by Vandyke in which the little boy is represented in armour and holding a wheel-lock pistol.

Dr. Wootton, writing in Oct., 1555, to the Council from



ENGRAVED SUIT OF ARMOUR IN THE TOWER, MADE BY CONRAD
SEUSENHOFER, 1514.

Given to Henry VIII. by the Emperor Maximilian.

La Ferté, Milan, says "to-day the king (Henry II.) leaves for the frontier accompanied by the Dauphin, who shall this journey begin to wear armour, at least mail and some other light gear meet for him to wear." The Dauphin was then nearly fifteen years old, for when he died as Francis II. in 1560 he was not quite eighteen.

WERE THE MEN OF ARMOUR DAYS SMALLER THAN
THOSE OF TO-DAY?

There is probably no commoner remark made by those who visit the Tower or indeed any other collection of armour than, Is it not the case that men of the armour period were much smaller than those of to-day? and then some story will be repeated about it being so difficult to find armour for some modern display such as the Eglington Tournament of 1839. The fact really is that except in one respect the man of the fifteenth and sixteenth centuries was not necessarily smaller than the ordinary man of the nineteenth. That particular was in the girth of the leg, and whether the mighty ones of times past did less to develop the muscles of the lower limbs, or whether the nineteenth century leg is abnormally large, yet it is certain that few modern men could get into the leg armour to be found in collections. The exterior girth of Henry VIII.'s leg armour in the four suits now in the Tower which may certainly be assigned to him are as follows:—the engraved suit, No. V, which we know was made to measure, Pl. V, arrived in England in 1514, when the king was 23 years of age, and the girth of the calf of that suit is $16\frac{1}{2}$ inches. In this as in the other cases there must be allowance made for some hose or underwear of sorts, though there does not seem to have been any lining attached to the leg armour, at least there is no visible means of attaching it. The suit, No. 28, called "that rough from the hammer," is said to have been made for him at the age of 18, but as anyone can see that the suit has been milled or glazed, as it is called, and is quite smooth, so the other statement which refers to his age may be equally incorrect. Anyhow the girth of the leg is 18 inches. The other two suits, Nos. 6 and 7, of the king evidently belong to later years, as we may see by the

large size of the body in each case, and it would take a pretty stout man to fill the cuirasses of these suits now or at any time. The calf girth is in No. 6, 20 inches, and in No. 7, $19\frac{1}{2}$ inches. These measurements would do for the average man now. But let us consider also three other suits, the attribution of which is without doubt. We will first take No. 9, which on the evidence of Jacob Topf's MS. was made for William, Earl of Worcester, who was said to be the most accomplished tilter of his day. He died in 1589. That he was a big man there is no doubt from the size of his cuirass, and also the weight of it, for the breastplate weighs 20 lbs. and the back 20 lbs. 3 ozs. Now the maximum size of calf of that suit is only 16 inches, and besides that the armour bears evidence of having been *let out* by the addition of pieces of metal. And if the calf is small, so is the ankle, which with only $10\frac{1}{4}$ inches of girth would fit few men who take any exercise at all.

The external waist girth of No. V is 35 inches, that of No. 20, 38 inches, and No. 7, 54 inches. No. 6 has had the culet and tails enlarged by extra pieces of metal.

Again, take the suit of Robert Dudley, Earl of Leicester, made between 1566 and 1588, as the engraved collar of the order of St. Michael and the death date of Elizabeth's favourite prove. The maximum girth of the calf is but $15\frac{1}{2}$ inches.

The gilt suit reported to have been given to Charles I. before he was king and consequently while he was 25 or less, has a girth of $14\frac{1}{2}$ inches. The boy's suit is $11\frac{3}{4}$.

Leaving the legs now let us turn to the question of height. It is well known that unless well set up, armour figures are apt to telescope down, and the armour said to have been carried at General Monk's funeral in 1670, and now in the Islip chapel in Westminster Abbey, is a marked instance of how much a figure can collapse. Of course for armour to fit any one it is clear that the beuds of the metal must correspond with the points of flexure of the individual. Now to take the brassards or arm defences, it will be remembered that the upper part of the brassard was often attached by points or laces to the sleeve of the garment immediately next to the metal;¹ by means of

¹ p. 120.

these points then we may adjust the arm bend of the armour to that of the body, but, in the case of the lower part of the brassard, if it is too short it will not reach from the elbow to the wrist, and would leave a gap at the top of the gauntlet. So also with the leg armour, the greave or portion covering the lower leg must be of the proper length. In the early part of the sixteenth century we find the back portion of the greave generally reaching to the heel instead of, as in earlier times, terminating at the ankle. In the later part of the sixteenth century we find in many suits, and especially in those made by Jacob Topf, a series of small plates, generally four in front and five behind, connecting the greave with the heel piece and giving much ease and freedom to the ankle. But these small plates are articulated together, and so the proper length from knee to heel is still necessary.

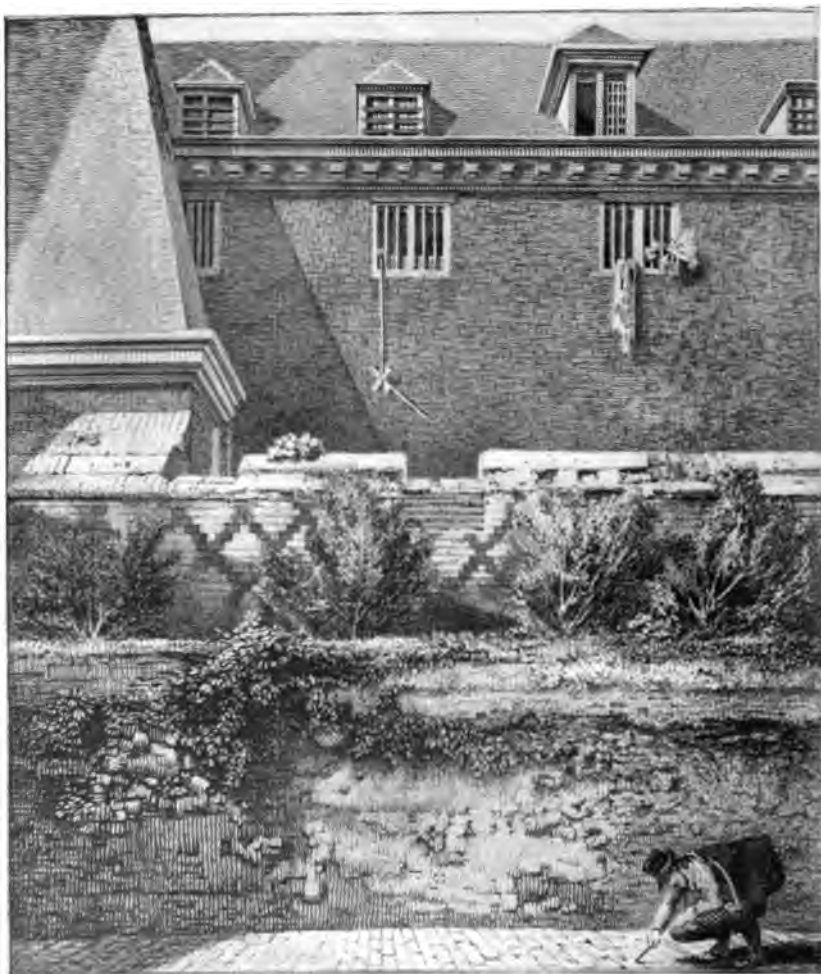
With regard to the body armour, the breast or back plates, they might be raised or lowered an inch or so without passing the lower margin of the gorget, and the only requisite was that the waist should be large enough and broad enough to encompass the wearer. The suits of the second half of the sixteenth century generally show an arrangement by which the upper portion, say the upper lames, could be detached from the lower, and so worn over the bulky trunks while the lower lames fitted to the thigh. In the long taces which did not so take to pieces we must remember that they were made to be worn when mounted and the leg bent, consequently we cannot expect them to look when set up on a standing figure any better than the overalls of a mounted man look when he is on foot.

The above remarks will, it is hoped, explain that except in the matter of the girth of the leg we must not conclude that we are much finer men than those of old days. Further, except for the tilt yard, and in some other cases, leg armour below the knee was not much used in England.

Armour was, besides, often being mended, or let out owing to the change of bulk of the wearer. In the Tower collection the Worcester suit has been thus altered.

Change of fashion also often affected armour, and it was

for such work no doubt that the payment of £57 17s. 4d. was made in 1530 to the master of the horse for sending the king's harness from Boulogne to Milan. At Henry's death in 1547 the inventory notes "one harnessse for the king's Maiestie all graven and parcele guilte both for the felde and Tilt complete which was commanded to be translated at the king's going over to Bulloigne which lieth in peces parte translated and parte untranslated by a contrarie commandment by the king's Maiestie." Might not this refer to the same suit as that of 1530?



REMAINS OF LONDON WALL; BUILDINGS OF BEDLAM IN THE BACKGROUND.

From an etching by J. T. Smith, 1812.

PILE STRUCTURES IN THE WALBROOK NEAR LONDON WALL.

By F. W. READER.

The discovery of remains of ancient pile-dwellings anywhere in this country might, at the present state of our knowledge in such matters, be expected to arouse great public interest, but when such a discovery is made in the very heart of London, at a depth of 20 feet below the present surface, it might reasonably be supposed that such an event would be regarded as one of national importance.

Remains of this nature have, however, recently been disclosed and ruthlessly swept away almost without attracting notice or causing comment of any kind.

It was moreover well known that such remains were to be expected on the site in question, which forms a part of the old bed of the Walbrook near the point where it passed under the city wall. The greater part of the bed of the stream, all along its course through the city, has from time to time been excavated during the last fifty or sixty years, and the peaty deposit with which the channel was filled has everywhere been noticed to contain numerous wooden piles. The true nature and significance of these piles were first recognised by Colonel Lane Fox, afterwards General Pitt-Rivers, who drew attention to them in an important communication to the Anthropological Society as far back as 1866,¹ which has since received greater publicity by Dr. Munro's copious allusions to it in his *Lake Dwellings of Europe*² and *Ancient Scottish Lake Dwellings*.³

The portion of the stream under notice is the northern continuation of that described by General Pitt-Rivers, and occupies the ground between the south-east side of Finsbury Circus and the north side of the street known as London Wall; in the angle which it forms with

¹ *Anthropological Review*, V (1867),
lxxi.

² pp. 460-464.

³ pp. 291-296.

Blomfield Street [with the exception of the corner where East Street joins Blomfield Street, which is occupied by Finsbury House], the whole of this space has recently been cleared for the erection of new buildings, the excavations for the foundations of which were carried down to a depth of about 30 feet.¹ In the summer of 1901 I learned that many objects and a great number of piles had been found there. Some of these latter were said to have been placed with such regularity as to indicate that they had formed a support for buildings.

Although numerous "curiosity collectors" were purchasing the more attractive relics from the workmen, no effort was being made, so far as I could learn, to secure any plan of the position of the piles, or to make any record of the objects associated with them. My attempts to obtain permission to inspect the operations were unsuccessful, and I was informed that all the ancient level had been cleared away. It was therefore with much pleasure that I learned later in the year from my friend Mr. Kennard that a large portion of the deposit still remained unexcavated, and that he had succeeded in obtaining access there at times when no work was in progress. At his kind invitation I gladly joined him and we visited the spot very frequently during last winter. As we only saw the site when no work was proceeding our opportunities were restricted for observing any continuous extent of the filling of the stream, and that which we have been able to record is naturally very imperfect and consists of little more than a series of sections, extended, as far as was possible, by our own exertions with the pick and shovel. During the earlier part of our observations the deposit was rapidly cut back, disclosing a complete section from 18 to 22 feet deep, from the surface of the ground to below the bed of the stream. Each week this presented a different appearance, with, here and there, piles exposed to view. Under these circumstances, the task of recording any arrangement of the piles in plan was of course impossible; our first efforts therefore consisted in observing the nature of the various deposits presented in the sections and digging more or less at haphazard in the face of the mass, confining our

¹ See fig. 4.

attention chiefly to the level occupied by the piles and keeping all relics found in association with them distinct.

At the commencement of the present year sufficient of the deposit had been removed for the requirements of the builders, and a large portion occupying the middle of the stream was reserved for purposes of "filling in." This was removed as required and gradually cut down from the top until the level of the piles was reached. In this way the same portion was sometimes exposed for two or three weeks, and at times gave us a considerable extent of the lower level unencumbered with the huge mass of accumulation above. We were thus enabled to examine some portions of these pile-structures in more detail than has probably been done hitherto. The conditions under which we worked at this later stage, although greatly improved, were far from favourable for acquiring anything approaching a complete record, the work commenced one week being often swept away before our return the next.

Apart from the interest attaching to this locality as a pile-dwelling site, the position of the stream itself and its relation to the city wall, under which it must have run in Roman times at a depth of about 20 feet below the present surface, claim special notice, and these considerations open up many important questions.

Before proceeding to describe the portion of the bed we have examined and the relics it contained, it will be well, perhaps, to explain the position this site occupies with regard to the general course of the stream, to recall some of the references to it by early writers and to enumerate the records of discoveries that have been made in its bed at various times.

THE WALBROOK, MOOR FIELDS, AND CITY DITCH.

The Walbrook was formed by a number of small streams flowing from the north-east of London and meeting in the neighbourhood of Finsbury. The main stream rose in the district now represented by Hoxton, and flowed to the east of Finsbury southwards into the Thames. In earlier times it was a stream of con-

siderable dimensions and probably tidal, but its channel gradually filled with the growth and accumulation of London, its bed became raised and the volume of water reduced, until it eventually dwindled to a mere rivulet, which was covered over and used as a sewer. The general course which it followed seems to have been fairly constant, though in later times it shifted a little to the east of the position of the earlier stream. Nothing now remains of it above ground but its name, which it has bequeathed to the street known as Walbrook, "because," says Stow,¹ "it standeth on the east side of the same brook, by the bank thereof, and the whole ward taketh the name of that street."

It has also left its mark in forming the divisions of the properties of the different city companies which were situated within the city, on its banks. Without the wall the parish boundaries have been largely determined by the line of the streams forming the Walbrook.

A description of the stream and of its later course is given by Stow,² although in his time its course through the city was no longer above ground.

He tells us that it was known as

"The Running Water, so called by William the Conqueror in his said charter,³ which entereth the city, etc. (before there was any ditch), between Bishopgate and the late made postern called Moorgate, entered the wall, and was truly of the wall called Walbrooke, not of Gualo, as some have far fetched; it ran through the city with divers windings from the north towards the south into the river of Thames, and had over the same divers bridges along the streets and lanes through which it passed."

"This water-course, having divers bridges, was afterwards vaulted over with brick, and paved level with the streets and lanes where through it passed; and since that, also houses have been built thereon, so that the course of Walbrooke is now hidden under ground, and thereby hardly known."

"Now from the north to the south this city was of old time divided, not by a large highway or street, as from east to west, but by a fair brook of sweet water, which came from out the north fields through the wall and midst of the city into the river of Thames, and which division is till this day constantly and without charge maintained."

"This water was called, as I have said, Walbrooke not Gallus brook, of a Roman captain slain by Asclepiodatus and thrown therein, as some have fabled, but of running through and from the wall of this

¹ Strype's ed. 1720, I, 23.

² *Ib.* I, 23.

³ The Charter to the College of St. Martin-le-Grand.

⁴ Stow's *Survey*, II, 2.

city. The course whereof to prosecute it particularly, was and is from the said wall to St. Margaret's in Lothbury, from thence beneath the lower part of the Grocers' Hall, about the east part of their kitchen, under St. Mildred's Church somewhat west from the said Stocks Market. From thence through Bucklersbury, by one great house built of stone and timber called the Old Barge, because barges out of the River of Thames were rowed up as far into this brook, on the back side of the houses of Walbrook Street, which street taketh name of the said brook, by the west end of St. John's Church upon Walbrooke, under Horseshoe Bridge by the west side of Tallow-chandler's Hall, and of the Skinner's Hall, and so far behind the other houses to Elbow Lane and by a part thereof down Greenwich Lane, into the River of Thames.

"This is the course of the Walbrook, which was of old time bridged over in divers places for passage of horses and men as need required; but since by means of incroachments on the bank thereof, the channel being greatly straightened, and other annoyances done thereunto at length the same by common consent, was arched over with brick and paved with stone, equal with the ground where through it passed, and is now in most places built upon, that no man may by the eye discern it. And therefore the trace thereof is hardly known to the common people."

Maitland says :

"The rivulet or running water denominated Wallbrook, ran through the middle of the city above ground, till about the middle of the fourteenth century, when it was arched over, since which time it has served as a common sewer, wherein, at a depth of sixteen feet, under St. Mildred's Church steeple, runs a great and rapid stream."

This covering over of the stream according to Hughson¹ took place in 1440, when the church of St. Margaret Lothbury was rebuilt.

"At which time Robert Lange, lord mayor, contributed to the vaulting over of the water of Walbrook, running close to the said church."

"The loss of this rivulet was owing to the many bridges covered with houses built over it, which increased to such a degree as to be formed into streets, so that the channel having been used as a common sewer was arched over and totally obscured by those streets."

It seems, however, that only a portion of the stream was covered in 1440, for Stow says :

"For order was taken in the 2 of Edward IV. (1462), that such as had ground on either side of Walbrooke, should vault and pave it over, so far as his ground extended."

From the top of Dowgate, where stood a conduit, an

¹ *History of London*, 1806, III, 51.

open channel existed to the Thames even as late as 1574, as it is recorded by Stow :—¹

“Downgate so called (as may be supposed) of the sudden descending or downgoing of that way from St. John’s Church upon Walbrook unto the River of Thames. Whereby the water in the channel there hath such a swift course that in the year 1574 on the fourth of September, after a strong shower of rain, a lad of the age of eighteen years, minding to have leapt over the channel, was taken by the feet and born down with the violence of that narrow stream and carried towards the Thames with such a violent swiftness as no man could rescue or stay him, till he came against a cart-wheel that stood in the watergate, before which time he was drowned and stark dead.”

North of the Wall, the district known as Moorfields and Finsbury remained an open waste land until a comparatively recent period. It is thus described by Stow :—²

“This field of old time was called the More as appeareth by the charter of William the Conqueror to the college of S. Martin, declaring a running water to pass into the said city from the same More.”

“This fen or moor-field, stretching from the wall of the city betwixt Bishopsgate and the postern called Cripplesgate, to Finsbury and to Holy-well continued a waste and unprofitable ground a long time, so that the same was all letten for four marks the year, in the reign of Edward II. ; but in the year 1415, the 3 of Henry V., Thomas Falconer, maior (as I have shewed), caused the wall of the city to be broken toward the said More, and builded the postern called Moregate, for the ease of the citizens to walk that way upon cawseys into the fields, towards Iseldon and Hoxton ; moreover he caused the ditch of the city and other ditches thereabouts, from Sores-ditch to Deepe-ditch by Bethelhem, into the More-ditch to be new cast and cleansed. By means whereof the said fenne or more was greatly drained and dried ; but shortly after, to wit, in 1477, Ralph Joceline maior, for repairing of the wall of the city, caused the said More to be searched for clay and brick to be burnt there, etc., by which means this Field was made worse for a long time.”

The portion of the Walbrook which traversed this part continued its course above ground long after that within the city had been covered in, as is shown on the maps of Braun (1572) and Aggas (1591), where it is to be seen emptying itself into the City Ditch close to the church of All Hallows-on-the-Wall. (Plate II.)

There were several smaller streams which ran into the main stream north of the wall, “five of which are still in existence as sewers,”³ as Sir William Tite tells us.

¹ *Survey*, I, 21.

² *Ib.*, IV, 54.

³ *Cat. of Antiquities*, New Royal Exchange, xxvi.

These were probably made in order to drain this district, which in earlier times was a swamp.

From the earliest historical account, that of Fitz-Stephen in the reign of Henry II., we learn¹:

“When that vast lake which waters the walls of the city towards the north is hard frozen, the youth in great numbers go and divert themselves on the ice; some taking a small run for an increment of velocity, place their feet at a proper distance and are carried sliding sideways a great way. Others will make a large cake of ice and seating one of their companions upon it, they take hold of his hands and draw him along, when it happens that moving swiftly on so slippery a plain, they all fall headlong. Others there are who are still more expert in their amusement on the ice; they place certain bones, the leg bones of animals, under the soles of their feet, by tying them round their ankles and then taking a pole shod with iron into their hands, they push themselves forward by sticking it against the ice, and are carried on with a velocity equal to the flight of a bird or a bolt discharged from the cross-bow.”

This swamp subsequently became a moor, which was no doubt to a large extent brought about by the defensive works carried out during the years 1211–1213, when the construction of the city ditch, as it was called in later times, took place. In order to provide this with a good supply of fresh water, several of the streams north of the wall appear to have been turned into it. The ditch is said to have been 200 feet wide and in parts deeply dug. In Moorfields, however, no traces of such a ditch have been observable, and it seems probable that when the construction or re-construction of the ditch was undertaken in 1211–1213, the nature of the ground at Moorfields rendered its formation, at that part, difficult and as a defence unnecessary. In later times there is no doubt from the evidence of the maps and from records, that the ditch existed in this neighbourhood, but its boundaries were probably the result of the successive raising of the ground to the north of it rather than of digging.

This would account for the difference remarked by Sir William Tite,² who from observation of the excavations made in his time, says:—

“Eastward of Aldersgate, the ditch was in part an artificial trench, so far as to Little Moorgate, a postern formerly standing near the

¹ *Description of London*, translated by Rev. Pegge, 1772, 50.

² *Catalogue of Antiquities*, New Royal Exchange, xxx.

south end of the present Blomfield Street, and from thence to the Tower it was entirely an excavated channel."

Stow, moreover, in the passage quoted above (p. 140) speaks of the Walbrook entering the city "before there was any ditch," but locates its absence "between Bishopgate and the late made postern called Moorgate." This differs somewhat from the observations of Sir William Tite, who found the ditch "in part an artificial trench" from Aldersgate as far as Little Moorgate, which position marks the extent of the swamp.

As Stow's record rests on tradition, it is easy to understand how by his time the precise locality may have been lost without detracting from the truth of the tradition that formerly no ditch existed in this part.

There is evidence, however, that this ditch was not the first that surrounded the city, but that in Roman times also a ditch formed a feature in the defence of Londinium. Remains of this ditch were discovered in excavating near the site of Aldersgate in 1887, a full account of which is given by Mr. G. E. Fox.¹ It was found cut in the gravel to a depth of 14 feet from the level of the base of the wall, or about 21 feet from the present surface. From the foot of the wall to the edge of the ditch was a space of flat ground 10 feet in width. The total width of the ditch across the top was 74 feet 6 inches and 35 feet at the bottom. Both sides and bottom had a clay puddling 6 inches thick. In one portion of the bottom was a raised mound which, by comparison with a similar find at Silchester, appears to have formed a support for a bridge which crossed the ditch from the gate.

It is most probable that remains of this ditch would have been discovered at Moorfields during the recent excavations, had proper observation been made, as doubtless the accumulation of the marsh above it would have been favourable to its preservation in this part.

Although it seems probable that a great deal of the water flowing from the north was thrown into the City Ditch (1211-1213), it would not appear to have greatly

¹ *Archæologia*, LII, 615.

reduced the volume of the stream forming the Walbrook which ran through the city. It must have remained a considerable stream until long after the construction of the ditch, and was largely utilized by tanneries and other industries. Extensive remains of tan-pits have been discovered in the neighbourhood of Tokenhouse Yard, while the skinners have left the name of Budge Row to a street occupied by them on the bank of the Walbrook.

Mr. W. H. Black¹ tells us :—

“The workers and dealers in Leather seem from ancient times to have occupied the northern edge of the city, within the wall; where the Curriers established themselves in the Ward of Cripplegate: and the Tanners, Tawyers and Leathersellers were grouped near the upper part of the Wall-brook.”

The Corporation Records contain many interesting documents relating to these industries. In² *The Ordinances of the Pelterers (Skinners) of London* (1365),

“It is ordained that no one of the said trade shall work together old and new materials of his own, also, that no one working at new werk shall sell or buy old furs, or any manner of old budge,³ as those who do so, are held suspected of mixing old and new together, etc., etc.

“Also it is ordained that all the freemen of the said trade shall dwell in Walbrok, Cornhulle and Bogerowe (Budge Row), and not in foreign streets in the city; that so, the overseers of the trade may be able to oversee them. For if they do not dwell together in the said streets, the overseers cannot duly do their duty or visit them; and then those dwelling elsewhere in foreign streets may make deceits in the said trade, against the Ordinances aforesaid and without any punishment for the same.”

The name Poultry also may be a corruption of “Peltery,” or place of the Pelterers. Stow derives this name from a market for poultry and says⁴ :—

“the poulterers are but lately departed from thence into other streets, as into Grasse Street and the ends of St. Nicholas flesh shambles.”

The poulterers in the time of Edward III. were restricted to Leadenhall and along the wall towards the west of the

¹ *History of the Leathersellers Company*, 71.

² *Memorials of London Life, Thirteenth, Fourteenth, and Fifteenth Centuries*, H. T. Riley, 328.

³ Fur of prepared lambskin or goat-skin.

⁴ *Survey*, III, 80.

church of St. Michael on Cornhill, as appears by the Corporation Records,¹ where it is expressly laid down,

"let them be found nowhere else, either going or standing with their poultry for sale, on pain of forfeiture of all such poultry."

As Stow admits that the Poulterers had disappeared from the Poultry at the time he wrote, it seems probable that he assumed their existence here from the resemblance of the name which probably is no more reliable than his derivation of Dowgate, which he renders "Down-gate, so called of the sudden descending or down going of that way." The earlier form of this word was Dougate, which appears to have led to Stow's confusion of Down-gate, but which more probably relates to its position as a water gate, and according to some is derived from the Celtic "*Dwr* (water or river) gate."²

Strict regulations were at first made for keeping the ditch and the course of the Walbrook clear, but these provisions were repeatedly neglected and caused fresh accumulations of water on the moor, and eventually choked up and greatly reduced the stream. The following records selected from Mr. H. T. Riley's³ translations will show how at different times measures had to be taken to secure the cleansing of these channels :—

- p. 23. THE WATERCOURSE OF WALEBROOK. 16 Edward I., A.D. 1288. Letter-Book A, fol. cxxx. (Latin).

It was determined by Ralph de Sandwich, Warden of the City of London, Thomas Cros and Walter Hauteyn, Sheriffs, Gregory de Rokesle, John Fitz-Peter, and other aldermen, that the water-course of Walebrook should be made free from dung and other nuisances, and that the rakes should be put back again upon every tenement extending from the Moor to the Thames.

On Wednesday next after the Feast of St. Peter's Chair (18th January), in the sixteenth year of the reign of King Edward, John de Banquelle, Ralph le Blund, Joce le Akatur, Robert de Basinge (others of the Aldermen), assented to the said enactment.

- p. 25. INQUISITION AS TO THE BRIDGE OF WALBROKE, NEAR BOKERELESBERI. 19 Edward I., A.D. 1291. Letter-Book A, fol. lxxxiv. (Latin).

On Friday the Feast of St. Margaret the Virgin (20th July) in the nineteenth year of the reign of King Edward, in presence of Ralph

¹ *Memorials of London Life*, 300, 369.

² *Archaeologia*, XXXIII, 106.

³ *Memorials of London Life*.

de Sandwich, Warden of the City of London, Thomas Romeyn and William de Leyre, Sheriffs of the same city, and William de Betoyne and Walter Hauteyn, Aldermen, inquisition was made by certain men of the Wards of Walbroke and Cornhulle, what person or persons were bound of right to repair the bridge of Walbroke near Bokerellesheri, and what person or persons have been wont to make the same, how, and in what manner, etc.

Who say upon oath that a certain tenement, formerly belonging to Richard de Walebroke and which Thomas Box now holds; a tenement formerly belonging to John de Tulesan the elder, and which John de Tulesan the younger now holds in the same street; a tenement formerly belonging to Laurence Fitz-Michael, which the Society of Lucca and John le Mazerer now hold; and the tenement of Bokerellesheri, which the heirs of Roger Beynyn now hold, in the same street, are bound to repair the said bridge, and of right ought to make the same, and have been wont in common so to do. And they say that in ancient times, as a mark who ought to make the said bridge, four stones were fixed before the tenements aforesaid, that is to say, before each tenement one stone; which were afterwards removed by Walter Hervy, the then improver of the city; and at that time he caused the said bridge to be repaired at the cost of the tenants of the tenements aforesaid. Therefore, precept was given to the Sheriffs, that they should compel the tenants of the said tenements to repair the bridge aforesaid.

p. 43. INQUISITION AS TO THE LIABILITY TO MAINTAIN TWO BRIDGES IN THE WARD OF BROAD STREET, AND TO FIND THE HINGES OF BISHOPSGATE. 28 Edward I., A.D. 1300. Letter-Book C, fol. xlvi. (Latin).

Inquisition taken before Elias Russel, the then Mayor of London and the aldermen there present, on Friday the morrow of the Translation of St. Thomas the Martyr (7th July) in the twenty-eighth year of the reign of King Edward, son of King Henry, as to the making of a certain bridge now broken, near London Wall, in the Ward of Bradestrade (Broad Street), by Henry Hauteyn of the Ward of Bassieshaw, Adam Manyman of the Ward of Colemanstrete, John Verin of the Ward of Bisshoppisgate, and John de Hertford of the Ward of Bradestrade, and other persons empanelled of the said Wards.

Who say upon their oath, that so often as it may happen that the said bridge shall be broken, the Prior of the Holy Trinity is bound to make it at his own cost; and he has so done time out of mind, because by his charters he has common way there. They say also that the Prior of the New Hospital without Bisshoppisgate ought to make one-half of another bridge, near to the former bridge, and the men who are nearest neighbours to that bridge, the other half. And precept was given to the Sheriffs, that they should distrain the aforesaid Priors and the neighbouring persons to rebuild the said bridges, and to keep them in good repair.

They say also, that the Bishop of London is bound to make the hinges of Bysoppesgate, seeing that from every cart laden with wood,

he has one stick, as it enters the said gate. Therefore directions were given to the Sheriffs, etc.

- p. 43. INQUISITION AS TO THE LIABILITY TO REPAIR THE COVERING OVER THE WATERCOURSE OF WALEBROC. 28 Edward I., A.D. 1300. Letter-Book C, fol. xlvi. (Latin).

Inquisition taken before the Mayor of London, on Wednesday the morrow of the Translation of Saint Benedict (11th July), in the twenty-eighth year, as to what persons are bound to repair the covering over the water-course of Walebroc, over against the wall of the chancel of the church of St. Stephen, Walebroc.

Whereon the jurors empanelled say upon their oath, that the parishoners of the church of Saint Stephen are bound of right to repair the said covering over the water-course of Walebroc. Therefore directions were given to the Sheriffs to distrain the said parishoners to do the building aforesaid.

- p. 477. ORDINANCES AS TO THE REPAIR OF CREPULGATE: THE CITY BARGE: AND THE WATERCOURSE OF WALBROK. 6 Richard II., A.D. 1383. Letter-Book H, fol. clxv. (French).

Also whereas the watercourse of Walbrook is stopped up by divers filth and dung thrown therein by persons who have houses along the said course, to the great nuisance and damage of all the city; it is assented to that the aldermen of the Wards of Colemanstret, Bradstret, Chepe, Walbrok, Vintry, and Douegate, through whose wards the said watercourse runs, shall diligently enquire if any person dwelling along the said course has a stable, or other house, whereby dung or other filth may fall into the same; or otherwise throws therein, or causes to be thrown therein, such manner of filth or rubbish, by which the said watercourse is stopped up; and let the mayor and chamberlain know the names of such persons and the number and extent of such offences, the most truthfully that they may: that so, by advice of the mayor and aldermen, and commonalty, punishment may be inflicted upon the offenders who act against this Ordinance, and this nuisance be abated thereby.

But it shall be fully lawful for those persons who have houses on the said watercourse, to have latrines over the course, provided that they do not throw rubbish or other refuse through the same, whereby the passage of the said water may be stopped. And every one who has such latrine or latrines over the same, shall pay yearly to the chamberlain for the easement thereof, and towards cleansing the said course 2s. for each of the same. And the said aldermen are to make enquiry how many latrines there are upon the said course, and to whom they belong, and to certify the said mayor and chamberlain as to the same.

- p. 379. LEASE OF THE MOOR FOR SEVEN YEARS, WITH PROVISION FOR CLEANSING THE WATERCOURSE OF WALLEBROK. 48 Edward III., A.D. 1374. Letter-Book G, fol. ccxviii. (Latin).

This indenture witnesseth, that a lease of the moor, together with charge of the watercourse of Wallebrok, was made by Adam de Bury, mayor, the aldermen, and John de Cantebrigge, chamberlain of the Guildhall of London, unto Thomas atte Ram, brewer, on Wednesday the morrow of St. James the Apostle (25th July), in the forty-eighth year, etc.; to hold the same from the said Wednesday for seven years then next ensuing, without paying any rent therefor: upon the understanding that the said Thomas shall keep the said moor well and properly and shall have the watercourse of Walbrok cleansed for the whole of the term aforesaid: and shall have the same cleared of dung and other filth thrown or deposited therein, or that may be there placed, during the term aforesaid: he taking for every latrine built upon the said watercourse 12*d.* yearly, during such term, for his trouble, as from of old has been wont to be paid. And if in so cleansing it as aforesaid he shall find ought therein, he shall have for his own all he shall so find in the dung and filth thereof. And the said mayor, aldermen, chamberlain and their successors, do agree that by these presents they will warrant the tenement aforesaid unto the said Thomas, in form aforesaid. In witness whereof, to one part of this indenture the Seal has been set of the Mayoralty of the City, and to the other part the said Thomas has set his seal. Given in the Chamber of the Guildhall of London, the day and year above written.

How the stream passed from the moor through the wall in mediaeval times is not at all clear, but some light is thrown on this matter by the following record of the formation of a sluice in 1415:—

- p. 614. ORDER MADE FOR THE REBUILDING OF THE LITTLE POSTERN IN THE CITY WALL; THE LAYING OUT OF THE CITY MOOR; THE PILING OF THE BANKS OF THE FOSS OF WALBROOKE; AND THE IMPROVEMENT OF THE WATERCOURSE AT OYSTER-GATE. 3 Henry V., A.D. 1415. Letter-Book I, fol. clii. (Latin).

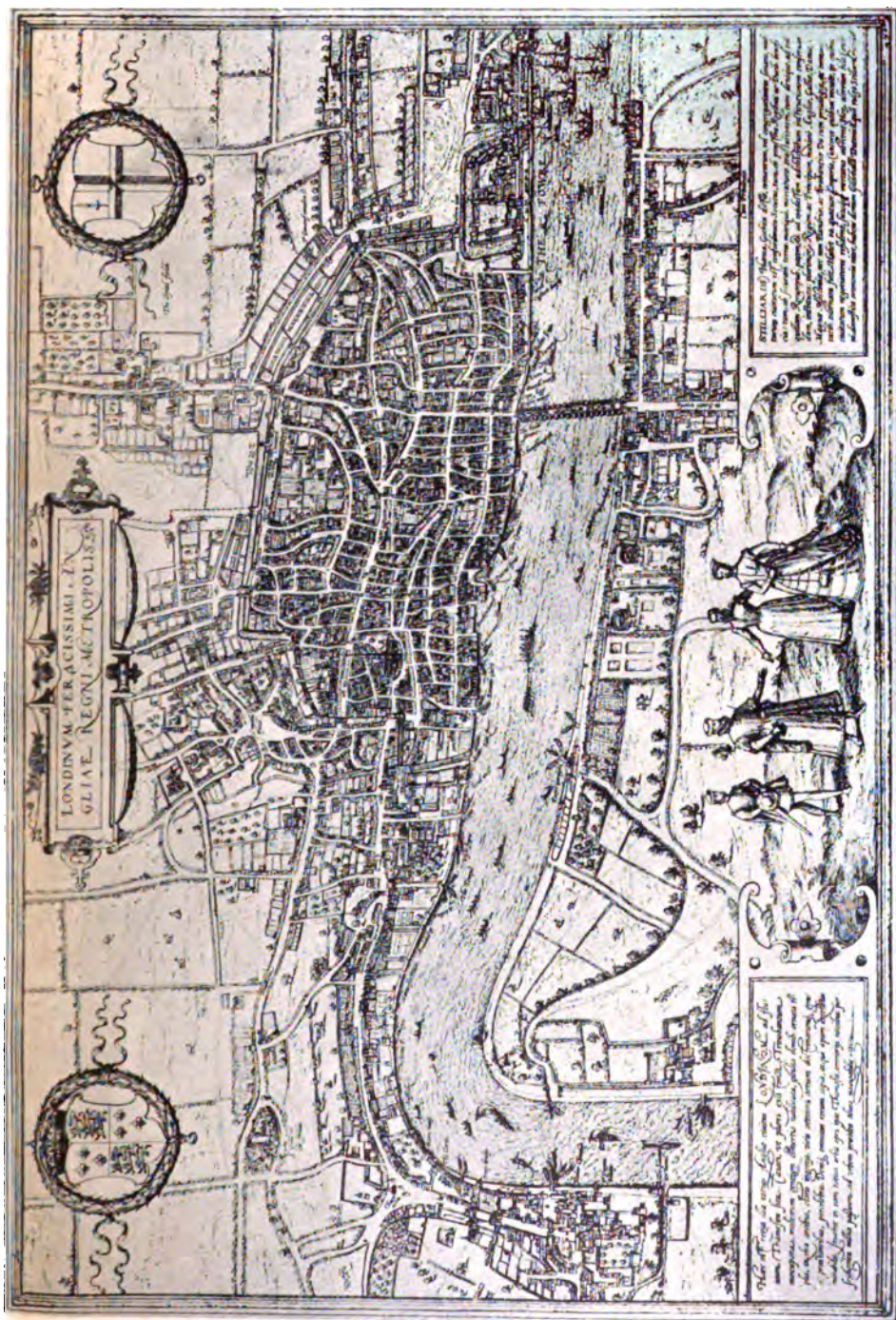
Because that from default of provision for the proper safety and due management and charge of a certain watery and vacant piece of land, called "the Moor," situate beneath the walls of the city and lying to the north thereof, as also, of a certain common latrine there situate, on the Moor aforesaid: by reason thereof, as well very many cellars and dwelling-houses were overflowed, in divers streets and lanes to the said moor near and adjoining, and many sicknesses and other intolerable maladies arising from the horrible, corrupt and infected atmosphere proceeding from the latrine aforesaid, from time to time were often prevalent: therefore Thos. Fauconer, the mayor, etc.

. . . And as it was there stated that at divers periods, and in the

times of divers mayors, for the public good of the said city, as it was said, the moor aforesaid had been at one time changed into a garden, and at another time into a vacant piece of land, and so repeatedly altered and changed : the said mayor and aldermen, with the sanction of the Common Council aforesaid, being now of opinion that if only the said moor should be allotted and divided into different gardens, as well the common advantage, in the way of rental paid to the Chamber of the said city, would be ensured thereby as easement to the cellars and dwelling-houses aforesaid by reason of the immunity which they so greatly stood in need of from the overflow of the water course before mentioned, did therefore order and determine, as a thing for ever to endure, that the Little Postern, built of old in the wall of the said city, should be pulled down, and made larger on the south side thereof, so soon as it could conveniently be done, for increasing the common advantage, and also the especial honour of the said city, by adding a gate thereto, the same to be shut at night and at all other fitting times. And that upon the moor aforesaid there should be laid out diverse gardens, to be let at a proper rent to such persons as should wish to take them, alleys being made therein lengthwise and across ; as more plainly depicted and set forth on a certain sheet of parchment, made by way of pattern for the plans aforesaid and shown to the Common Council and exhibited.

And to the end that the horrible, infected and corrupt atmosphere arising from the latrine aforesaid, for the saving of the human body, as people go return and pass along that way, might be wholly got rid of and excluded therefrom, it was ordered by the said Mayor Aldermen and Common Council that such latrine, together with the entrance to the same, should be removed and that another latrine should be built or made anew, on the other side, within the walls of the said city, and upon the Fosse of Walbrook : it being understood that all laystalls and other kinds of filth whatsoever, usually discharged into the said Foss, so often as it should be necessary to be done, should, by means of the interception of a watergate, called a "scluys," or a "speye," and the flow of the water from the Fosses without the walls of the city, which discharge into the Foss of Walbrooke aforesaid, be carried off and got rid of. And further, by the said mayor, aldermen and Common Council it was ordered and agreed that all inhabitants upon the margin of the Foss of Walbrooke, near to the water of Thames, should pile the banks of the same, and cause it to be piled, or else walled with walls ; taking due care that by the breaking or sinking of such walls, there should be no impediment to the water, so running into the Foss as aforesaid, having its free course and protection until it reaches the Thames.

Mr. Riley suggests that the postern referred to in the foregoing document is the little postern in Cripplegate Ward. "Its site is still remembered under the name of Aldermanbury Postern leading towards Moor Lane." There seems little doubt, I think, that this is an error and that this "Little Postern" on the "Foss of Walbrook" is Little Moorgate, which stood at what is now



MAP OF LONDON, 1575. By Braun.

the end of Blomfield Street.¹ This, it has now been ascertained, was directly in the line of the original stream, and from the nature of the deposits above the old bed, seems to have been the course maintained by the stream in later times. Should a water-gate or sluice have been formed in the earlier "Little Postern," it would by reason of the raising of the river bed have become much reduced, making it necessary that the postern "should be pulled down and made larger" with the sluice on the higher level. J. E. Price, in the map which accompanies his excellent account of the Walbrook,² has shown the stream passing along the line of Blomfield Street, and falling into the city ditch, along which it is taken towards Moorgate, just before reaching which it again turns and enters the city wall, at which point a mediaeval sluice is placed. What warrant Price had for fixing the sluice here I am unable to discover, it seems possible that he has assumed this, because the sewers have been formed in this manner, the line of which he takes to be the same as that of the stream. Although this in a general way is true, it is quite conceivable that special reasons might have occurred for slightly diverting the line of the sewers at certain parts, from that which the stream had followed. If, however, a sluice did exist here, it is certainly not the one referred to above, for its position is midway between the Little Postern at Cripplegate and Little Moorgate, at which point there is no record of a postern having existed. It seems, therefore, reasonable to suppose that the course of the later stream through the wall was still in the bed of the older river.

The measures taken to cleanse the ditch, and their final neglect, causing it to become filled up, and the further attempts made to improve the moor are thus related by Stow:—

³ "The ditch which partly now remaineth, and compassed the wall of the city, was begun to be made by the Londoners in the year 1211, and finished 1213, the 15th of King John. This ditch being then made of 200 feet broad, caused no small hindrance to the canons of the

¹ *Catalogue of Antiquities*, Royal Exchange, Sir Wm. Tite, p. xxxi.

² *Roman Pavement at Bucklersbury*.

³ *Surrey of London*, I, 11.

Holy Trinity, whose church stood near Ealdgate; for that the said ditch passed through their ground from the Tower unto Bishopsgate.

¹ "This ditch, being originally made for the defence of the city, was also a long time together carefully cleansed and maintained, as need required: but now of late neglected and forced either to a very narrow, and the same a filthy channel, or altogether stopped up for gardens planted and houses built thereon: even to the very wall, and in many places upon both ditch and wall, houses are built; to what danger of the city, I leave to wiser consideration, and can but wish that reformation might be had.

"In the year of Christ 1354, the 28th of Edward III., the ditch of this city flowing over the bank into the Tower ditch, the king commanded the said ditch of the city to be cleansed, and so ordered, that the overflowing thereof should not force any filth into the Tower ditch.

"Anno 1379, John Philpot, maior of London, caused this ditch to be cleansed, and every householder to pay five pence, which was for a day's work towards the charges thereof. Richard II. in the 10th of his reign granted a toll to be taken of wares sold by water or by land, for ten years, towards repairing of the wall and cleansing of the ditch.

"Thomas Falconer, maior, 1414, caused the ditch to be cleansed.

"Ralph Joceline, maior, 1477, caused the whole ditch to be cast and cleansed, and so from time to time it was cleansed and otherwise reformed. Namely, in 1519, the 10th of Henry VIII., for cleansing and scowering the common ditch between Aeldgate and the postern next the Tower ditch. The chief ditcher had by the day seven pence, the second ditcher six pence, the other ditchers five pence, and every vagabond (for so were they then termed) one penny the day, meat and drink, at the charges of the city. Sum £95 3s. 4d.

"In my remembrance also the same was cleansed, namely the Moore ditch, when Sir William Hollies was maior, in the year 1540, and not long before, from the Tower of London to Ealgate.

"It was again cleansed in the year 1549, Henry Amcotes being maior, at the charges of the companies. And again, 1569, the 11th of Queen Elizabeth, for cleansing the same ditch between Ealdgate and the Postern, and making a new sewer, and wharf of timber, from the head of the postern into the town ditch £814 15s. 8d. Before the which time the said ditch lay open, without either wall or pall, having therein great store of very good fish, of divers sorts, as many men yet living, who have taken and tasted them can well witness. But now no such matter, the charge of cleansing is spared, and great profit made by letting out the banks, with the spoil of the whole ditch.

"I am not ignorant of two fifteens granted by a Common Council in the year 1595, for the reformation of this ditch, and that a small portion thereof, to wit between Bishopsgate and the Postern called Mooregate was cleansed and made somewhat broader than it was before; but filling again very fast, by reason of over-raising the ground near adjoining, therefore never the better: and I will so leave it for I cannot help it.

² "In the year also 1511 the third of Henry VIII., Roger Achely,

¹ *Survey of London*, I, 12.

² *Ibid.*, I, 17.

maior, caused dikes and bridges to be made, and the ground to be levelled and made more commodious for passage. Since which time the same hath been heightened so much, that the dikes and bridges are covered: and it seemeth to me that if it be made level with the battlements of the City Wall, yet will it be little the drier, such is the moorish nature of that ground."

To which Strype adds :

"Thus it was in Mr. Stow's time: but we see what an alteration time, pains and expense have made for the better. For these fields before an unhealthful place, in Sir Leonard Halliday's maioralty, were turned into pleasant walks, set with trees for shade and ornament, compassed with brick walls, made convenient with vaults under ground for conveyance of the water, which stood the city in £5,000 or thereabouts.

"For the walks themselves, and the continual care of the city to have them in that comely and worthy manner maintained, I am certainly persuaded that our thankfulness to God being first truly performed, they are no mean cause of preserving health and wholesome air to the city: and such an eternal honour thereto as time shall not be able to deface."

Moorfields was drained in 1527, but remained a barren waste, traversed with open sewers, and was a depository for the rubbish of the city long after the town ditch had become filled up. It was not until the time of James I. (1607) that any great improvement seems to have been effected, when it was laid out in pleasant walks and planted with trees.

Howes, writing in 1631, says,²

"And lastly whereof there is a more generall and particular notice taken by all persons, resorting and residing in London, the new and pleasant walkes on the north side of the city, anciently called Morefield, which field (untill the third yeere of King James) was a most noysome and offensive place, being a generall laystall, a rotten morish ground, whereof it first tooke the name. This field for many yeares was environed and crossed with deep stinking ditches and noysome common shewers, and was of former times held impossible to be reformed, especially to bee reduced to any part of that fayre, sweet and pleasant condition, as now it is. And likewise the two other fieldes adjoyning, which untill the late time aforesayed, were infectious and very grievous unto the City and all passengers, who by all means endeavoured to shun those fieldes, being loathsome both to sight and sent; yet nevertheless upon the good opportunitie of sweete peace, whereof these three fields will ever remaine a perfect testimony, the first of which viz., that fayre square, next the City wall, was greatly furthered by Sir Leonard Holliday, in the time of his Maioralty, and through the great paynes and industry of Master

¹ *Survey of London*, III, 70.

² *Annales or a Generall Chronicle of England*, 1621.

Nicholas Seare, reduced from the former vile condition, unto most faire and royall walkes as now they are, which worke whilest it was in doing, being very difficult, the people spake very bitterly and rudelie against these two worthy men, and their good endeavours therein, and in derision sayed it is a holiday worke. All which they patiently endured, and persisted, but when the multitude saw this worke brought unto desired effect, then their unconstant mindes changed, and applauded the effect."

These fields continued to serve London as a recreation ground. Many interesting references and literary extracts relating to the later history of Moorfields have been collected by Peter Cunningham¹ showing how it was used as a drying ground by laundresses and bleachers, was a resort of cudgel-players and wrestlers, and a muster ground for the trained bands of the city.

In 1666, after the great fire, temporary buildings and tents were erected on Moorfields, to shelter the homeless inhabitants of London until their houses were rebuilt.

From this time this site commenced to be built upon, as is recorded by Pepys :

"1st April 1667. Into Moorfields, and I did find houses built two stories high, and like to stand ; and must become a place of great trade till the city be built ; and the street is already paved as London streets used to be."

In 1657 Bethlehem Hospital was removed from Bishopsgate and built on the southern side of Moorfields, adjoining the city wall, while the ground now occupied by Finsbury Square, and the lower portion immediately in front of Bethlehem remained as a pleasure ground, planted with trees and laid out in walks, as can be seen by the map of Ogilby and Morgan (1677). Two open ditches are also shown on this map, which become covered on reaching the Quarters. These are directly over the course of the Walbrook and probably represent the last remains of that stream above ground.

As an instance of the extensive measures that had to be taken to level the Moor, even as late as the eighteenth century, Maitland² tells us :

"The Quarters, or lower Moorfields, was raised anew in the years 1730-31-32 with rubbish and street dirt about the height of 3 feet, and being almost brought to a level with the middle field, was beautifully inrailed and planted with elm trees."

¹ *Handbook of London*, 1850, 344.

² *History of London*, 1739, 506.

Finsbury Square was built in 1789, and in 1814 Bethlehem Hospital was pulled down and removed to its present position in South London. The London Institution and Finsbury Circus were built in 1815.

A row of shops was erected in London Wall about this time, and Finsbury Chambers were built on the angle formed by Blomfield Street. These last developments can be best seen by reference to Horwood's map (1799) (Pl. III) and the various maps of more recent date.

THE ROMAN WALBROOK AND FORMER DISCOVERIES IN ITS BED.

All that we know of the stream in Roman times is from the observations that have been made of the deep excavations that have occurred at various times in its bed. These records are detached, scattered and imperfect, but by bringing them together they serve to throw considerable light on the nature of the stream during its earlier existence. As probably no portion of its bed remains unexcavated south of Broad Street Railway Station (unless it be, perhaps, some small portions under the old houses in the lower part of Copthall Avenue, which are the remains of what was formerly Little Bell Alley) no excuse may be needed for endeavouring to collect the evidence at this time.

The course of the Roman "Walbrook" seems to have been generally the same as that it followed in mediaeval times and which has already been described; the later stream, much reduced in volume, keeping in the older bed though at a higher level, and having worked for the most part to its east or south-east bank. It is interesting to note that the present river Lea, which runs in an almost parallel direction into the Thames, occupies a similar position with regard to its older bed. Mr. T. V. Holmes¹ says :

"As regards the Lea, we find that from its junction with the Stort downwards it once flowed one, two, or even three miles west of its present channel, while it never ran, on the whole, in its earlier days much further eastward than it now does."

In early Roman times the Walbrook was a stream of considerable width, at least in that portion of it which

¹ *Essex Naturalist*, Geology of the Lea Valley, VIII, 200.

ran through the City and Moorfields. The records of its measurement and extent that have been made, although not plentiful, are sufficient to enable us to map out its course approximately and show its channel to have been nearly 300 feet broad at its mouth, where it joined the Thames, narrowing to about 120 feet at Moorfields. Beyond this point no observations appear to have been recorded. It appears to have been a shallow stream running over the gravel which caps the London clay, without any well defined banks, these, where they have been noticed, being only 3 or 4 feet high. Its bed has been found at a depth of about 20 feet in the neighbourhood of Moorfields, and running to more than 30 feet nearer its outfall. Its great width may probably have been owing to its being affected by the tides, though the evidence of this does not seem to be conclusive. Concerning this point, General Pitt-Rivers remarks¹ :

“With regard to the probability of this part of London having been a marsh at that time, it appears, by reference to the city sewers office, that the centre of the London Wall Street is 31·69 feet above the mean high water mark at London Bridge ; taking the average level of the gravel in the excavation at 19½ feet below this, the bottom of the peat would be at 12 feet above high water mark. The extreme rise of the spring tide above mean high water mark during the year is 7 feet, thus leaving a margin of 5 feet between the bottom of the peat and the highest spring tide water mark, as at present existing. Considering, however, the great probability of the river having run at a higher level in Roman times, it appears not unlikely that this spot may then either have been under water or exposed to inundations.”

As, however, the lowest point in the portion alluded to by the General was 22 feet, this margin of 5 feet would be still more reduced, and from this part to the Bank there was a further fall of 8 or 10 feet, so that even under conditions similar to those at present existing, there seems little reason to doubt that the tides would have at least washed the lower portion of its course.

In the river mud, covering its base, and even resting on the gravel, Roman objects have been found ; there is, moreover, an entire absence of objects of an earlier period. It seems, therefore, certain that it was a river of considerable activity, still cutting down its base, or at least

¹ *Anthropological Review*, V (1867).

For further notice regarding the tides of the Thames in early Roman times see :—*Arch. Jour.* XLII, 269, and *Proc. Geol. Assoc.* II, 224.

had not commenced to deposit its bed until the period of the Roman occupation. In the valley of the Thames above London, as at Hammersmith and Kew,¹ and in the bed of the Lea at Tottenham,² relics of pre-Roman date have occurred associated with remains of pile structures, so that if any earlier settlement existed on the Walbrook, the evidence of this must have been swept away before the deposition had commenced.

In that portion of the stream on either side of the London Wall Street, where the entire filling is about 20 feet in depth, Roman objects occur from the bottom to a height of about 9 feet, which shows that the deposition which commenced in Roman times proceeded much more rapidly than during subsequent periods. It also appears that a large reduction in the volume of the stream took place during Roman times and that the inhabitants of London, who were thickly clustered on both its banks, embanked the sides, narrowing its bed, over which they built houses. Several tessellated pavements have been found resting on piles driven into the sides of the stream at several points along its course.

There is evidence that the rainfall in Britain was greater than it afterwards became during the domination of the Romans. The great work we know to have been carried out by them of clearing the forests, draining, and opening up the land no doubt largely contributed to bring about this result. In the Romano-British villages examined by General Pitt-Rivers in Wiltshire³ it was found that when first constructed they were surrounded by and intersected with ditches, forming an elaborate system of drainage as if to carry off torrential flood rains. At a later time these ditches became filled up, and in some cases banks were raised over them, showing that such precautions were no longer necessary. The ancient wells also of the same locality stood at a much higher level than do those at the present time.

One of the earliest records of the older stream being reached is by Maitland⁴:

¹ *International Congress of Pre-historic Archaeology*. Trans. of the Third Session, 1868. 271.

² *Trans. of the Essex Field Club*, III, 6.

³ *Excavations in Cranborne Chase*, I, 27; II, 56; III, 3.

⁴ *History of London*, 1739, 507.

"Digging a foundation for the present Bank of England in Threadneedle Street, 1732, they brought up by an augre, oyster shells and made earth at the depth of 30 feet, but wanting an additional length of borer could go no deeper."

This, he argues, corroborates the tradition that barges anciently came from the river Thames up Walbrook as far as Bucklersbury. Timbs' goes further and says:

"The brook was navigable not merely to Bucklersbury but as far as Coleman Street, where a Roman boat hook was found."

Without wishing to deny the probability of the stream being navigable thus far in early times, the hook referred to can hardly be considered as evidence of this, as it was found at the bottom of a well on the side of the stream, and with it was a bucket handle.² A similar find was made at Preston,³ and the reason of the association of these objects with a well is obvious.

Sir William Tite⁴ says:

"That the river was navigable up to the city wall on the north is said to have been confirmed by the finding of a keel and some other parts of a boat, afterwards carried away with the rubbish, in digging the foundations of a house at the south-east corner of Moorgate Street. But whether such a discovery were really made or not, the excavations referred to appear at least to remove all the improbability of the tradition that 'when the Wallbrook did lie open barges were rowed out of the Thames or towed up to Barge yard.'"

Gough records⁵:

"In 1774 was laid in Walbrook a new sewer, a perfect cylinder of three feet diameter, comprised of bricks set in terrace. In digging between Thames St. and Elbow Lane 20 ft. below the surface and 6 feet below the site of the pavement at the Fire of London, they found the trunk of an oak 25 feet long, the bark perished, the sides unhewn and no root: it was firm and black, without appearance of fire. In the part of the sewer near Budge Row they found many piles 3 or 4 feet long pointed and fixed in the ground 20 feet below the present surface and a piece of oak timber 15 by 19 inches in diameter laid on the piles."

Much of our knowledge of the bed of the Walbrook of Roman times has been gathered for us by Roach-Smith, whose records of the various portions excavated in his time, though they fail in many ways to satisfy our present requirements in observations of such remains, are never-

¹ *Curiosities of London*, 1855, 650.

² *Archæologia*, XXVII, 143.

³ *Ibid.*

⁴ *Catalogue of Antiquities*, New Royal Exchange, xxvii.

⁵ Camden's *Britannia*, 1806, II, 92.



2. By Horwood, 1799.



1. By Robert Norden and Philip Lea, 1690.

TWO MAPS OF MOORFIELDS, ETC.

theless of great value, and the more to be esteemed when one remembers that he lived before the days of scientific archaeology. Roach-Smith saw the opening up of a large extent of the Roman level of London, and but for his untiring efforts, our knowledge of what was then revealed would have been small indeed, the authorities and the public being then as equally indifferent to the value of such discoveries as they are at the present time. In his *Illustrations of Roman London* and various papers in *Archæologia* many references to the Walbrook occur. Evidences of Roman buildings are recorded on both banks of the portion of the stream within the city, and of the bed itself he says :

¹ "As the excavations approached Princes Street (which bounds the Bank of England on the west) the soil, denominated by those familiar with the London strata, Roman, descended to a much greater depth than either at East Cheap, at Newgate Street or at the London Wall near Finsbury. From the level of the present street I should say that 30 feet would scarcely limit its depth, and the extent may be pronounced equal to the length of the west side of the Bank. Here it assumed also a different appearance, being much more moist, highly impregnated with animal and vegetable matter, and almost of an inky blackness in colour. It is worthy of note, that the same character is applicable to the soil throughout the line of excavation from Princes Street to the London Wall at Finsbury, though nowhere did I observe it extend to such a depth as at the former place. Throughout the same line also were at intervals noticed a vast and almost continuous number of wooden piles, which in Princes Street were particularly frequent, and where also they descended much deeper. The nature of the ground and the quantity of these piles tend to strengthen the probability of a channel having existed in this direction, draining off the water from the adjoining marshes, and that too (from the numerous Roman remains accompanying these indications) at a very remote period.

"The Roman remains found by the labourers near the course of the above stream in Princes Street, and in the vicinity of the Bank of England, are of a more interesting nature and of a more varied description than hitherto have been met with.²

Some of these objects are described in detail in the paper referred to.

"The excavations having advanced to Lothbury, the first object that struck my attention was the remnant of a tessellated pavement opposite Founder's Court. Nearer the Church of St. Margaret, at about ten or twelve feet deep, the workmen met with a vast number of iron instruments, such as chisels, crow-bars, hammers, etc., all in a very corroded state. Descending still deeper beyond the church, and

¹ *Archæologia*, XXVII, 142.

² *Ibid.*, XXVII, 143.

at the east corner of the Bank, the usual vestiges denoting Roman occupancy were found in abundance, and include a leathern sandal well preserved and thickly studded with nails on the sole, specimens of red and black pottery, numerous middle-brass coins of Domitian and one of Antoninus Pius, reverse 'BRITANNIA.' Wooden piles similar to those before-mentioned in Prince's Street were again encountered and combined to indicate the existence of embankments of a water course at a very remote period."¹

"As the works proceeded from Lothbury to London Wall, various objects of interest were from time to time procured, such as brass coins of Agrippa, Antonia, Claudius and Vespasian, Trajan in large brass."²

"But the most important discovery in the line of excavation from Lothbury to the Wall, was made on the Coleman Street side, near the public house called the *Swan's Nest*, where was laid open a pit or well containing a store of earthen vessels of various patterns and capacities."³

A detailed description of this well is given, and among the objects mentioned are "two iron implements resembling a boat hook and a bucket handle," and a small brass coin of Allectus.

"In London Wall opposite Finsbury Chambers, at a depth of 19 feet, what appeared to have been a subterranean aqueduct was laid open. It was found to run towards Finsbury, under the houses of the Circus, about 20 feet. At the termination were five iron bars fastened perpendicularly into the masonry, apparently to prevent the weeds from choking the watercourse. At the opening of this work towards the city was an arch, 3 feet 6 inches high, from the crown to the springing wall, and 3 feet 3 inches wide, composed of fifty tiles. The spandrels were filled in with ragstone to afford strength to the work. The arch was not worked on a centre but corbelled over by hand, the keystone being half a tile and cement. This aqueduct took a southern course for about 60 yards, where it terminated. The entrance was evidently above ground and open to the air, as it was moss-grown. It contained many urns of black ware, a gold ring set with a garnet on which is an engraving of a horse running at full speed, in the best style of workmanship. The neighbourhood was rich in Roman remains, among which were knives, scissors, drinking cups, brass rings, Samian pottery and coins of Vespasian, Trajan, Pius, Aurelius, and the Faustinae.

"The course of the sewerage up Bloomfield Street was marked by the well known features of the locality, being boggy and marshy. It may be mentioned that an immense number of human skulls were found throughout this street.

"Along the line of London Wall at Finsbury were a number of urns and an inscription to Grata the daughter of Dagobitus by her husband Solinus."⁴

¹ *Archaeologia*, XXVII, 147.

² *Ibid.*, l.c.

³ *Ibid.*, XXVII, 148.

⁴ *Ibid.*, XXIX, 152, Pl. XVII,

Fig. 7.

⁵ *Ibid.*, XXIX, 147.

The neighbourhood of the lower part of the stream, near its outfall into the Thames, has furnished remarkable remains of buildings which show that this district was thickly inhabited. In Bush Lane,¹ as far as Cannon Street on the east bank, and in Cloak Lane² on the west. Roach Smith records that an abundance of fresco-painting, portions of tessellated pavements, tiles, etc., were found. Many walls were encountered during the excavations; one opposite Scot's Yard is mentioned as being of the extraordinary thickness of 20 feet. This wall Roach Smith suggests may have formed the northern boundary of earlier London.

Sir William Tite, who has also contributed many valuable observations on the remains of Roman London, has given us a most excellent description of the Walbrook.³ He says:

"Recent excavations have shown that, though short, it was really an important channel, fed by several rills, which all met on the north side of the city ditch in Moorfields, five of which are still in existence as sewers."

These smaller streams referred to have probably no connection with the stream of the Roman period, but were formed in later mediaeval times to drain the marsh. After tracing the course of the stream (mediaeval), by means of the boundaries of the properties of the City Companies, Sir William Tite continues:

"and with respect to the width of it, the sewerage excavations in the streets called Tower Royal and Little St. Thomas Apostle, and also in Cloak Lane, discovered the channel of the river to be 248 feet wide, filled with made earth and mud, placed in horizontal layers, and containing a quantity of black timber of small scantling. The digging varied from 18 feet 9 inches to 15 feet 6 inches in depth, but the bottom of the Wall brook was, of course, never reached in those parts, as even in Princes Street it is upwards of 30 feet below the present surface.

"Eastwards of Carpenters' Hall, a mass of rubble masonry, of about 12 feet in thickness, was cut through; and in the centre was found a culvert, or Roman sewer, in which were discovered three iron bars in perfect preservation, enclosing a human skeleton, the skull of a dog, and the stem of a stag's horn, together with a silver coin of Antoninus and a copper coin of Faustina. Beyond this point the crown of the culvert had been broken in, and a fragment of a rudely wrought column had fallen through the breach. As the ancient sewer passed under houses no further examination could be made in this direction,

¹ *Archaeologia*, XXIX, 156.

² *Collectanea Antiqua*, I, 139.

³ *Catalogue of Antiquities*, New Royal Exchange, 1848, xxvi.

but on the south side it was not only found to be perfect, but even the mouth of it was discovered under a house at the north-east corner of Carpenters' Buildings. The sewer was constructed of small thin tiles, cemented together by very thick joints of red mortar, made of pounded tile, and having a large pebble inserted in the centre of each. From the top of the sewer to the opposite bank of a ditch into which it discharged itself were placed several pieces of timber scantling in a sloping direction, and a considerable quantity of long moss, undecayed and still retaining a greenish colour, was taken from between them. The ditch receiving the contents of the sewer was made on the south side of the remains of a strong work like part of a fortification, about the site of Little Moorgate or the entrance of Bloomfield Street. As the depth from the present surface to the bottom of the sewer was 18 feet 4 inches, and the open ditch of the fortress was still deeper, it is evident that at the time when they were constructed the adjacent ground was dry and substantial, for the later accumulation of soil was so soft that at one part the bricks could scarcely be laid."¹

The next notice of the ancient Walbrook is the very valuable contribution of General Pitt-Rivers in 1866 already referred to.² The great importance attaching to these observations consists in the detail and accuracy with which the filling of the stream has been recorded, and in the fact that General Pitt-Rivers then first pointed out that the piles which occurred there appeared to have formed the foundations of buildings. As the ground recently examined by Mr. Kennard and myself forms the continuation of that described by General Pitt-Rivers, his portion being south of the Wall, ours lying directly to the north of it—and while many of the conditions are identical, there are some features which show a striking difference—it will be necessary to refer somewhat fully to the account given by the General.

Although a sketch plan of the site of these discoveries accompanies the record, the exact spot is not shown by a map, but it appears from the description to be that occupied until recently by the wool-warehouse of Messrs. Gooch and Cousins, on the south side of the street called London Wall, opposite Circus Place, and which has been demolished during the last few weeks. There is also some confusion of feet and yards in the measurements given from the city wall, which renders it difficult to locate the site exactly. He describes the excavation as of an irregular oblong form, 61 yards in length, running north and south, and 23 yards wide.

¹ *Catalogue of Antiquities*, xxxi.

² *Anthropological Review*, V (1867), lxxi.

A section of the soil consists of:—

1. Gravel similar to Thames ballast at a depth of 17 feet towards the north, inclining to 22 feet towards the south end.
2. Above this peat of unequal thickness, varying from 7 to 9 feet.
3. Modern remains of London earth composed of the accumulated rubbish of the city.

The description of the piles and the objects found is as follows :

“When I first saw the place about two cartloads of bones, nearly all broken and black from having laid in the peat, were heaped up in readiness to be carted away, and I was informed that several cartloads had already been taken to the bone-factory.”

A selection of these bones was submitted to Professor Owen, who identified them as: horse, red-deer, wild boar, goat, dog, *Bos longifrons* and the roebuck.

“The horns of the roebuck, I afterwards ascertained, were all found at a higher level. These, and also the horse and goat, entered the superficial earth, in which glazed pottery was also found; but the remainder, including the red deer, wild boar, and *Bos longifrons*, appeared, so far as my observations enabled me to judge, to be confined to the peat. All the bones retain their animal matter. No remains of any kind have, to my knowledge, been found in the sub-adjacent gravel.

“Upon looking over the ground, my attention was at once attracted by a number of piles, the decayed tops of which appeared above the unexcavated portions of the peat, dotted here and there over the whole of the space cleared. I noted down the positions of all that were above ground at the time; and as the excavations continued during the last two months, I have marked from time to time the positions of all the others as they became exposed to view; the result is shown in the accompanying sketch-plan.”

This is reproduced here (fig. 1).

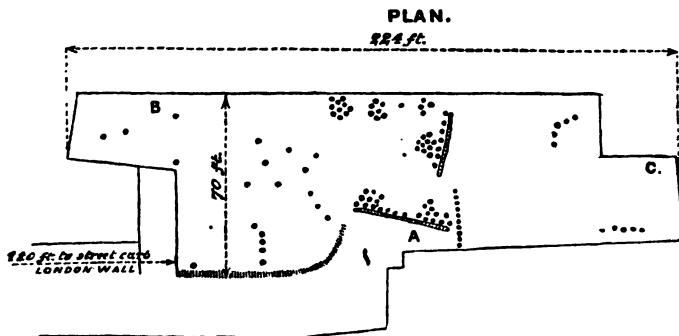


FIG. 1.—PLAN OF PILE STRUCTURES NOTED BY GEN. PITT-RIVERS IN 1866.

"Commencing on the south, a row of them ran north and south ; on the west side, to the right of these, a curved row, as if forming part of a ring. Higher up and running obliquely across the ground was a row of piles, having a plank about an inch and a half thick and a foot broad placed along the south face, as if binding the piles together. To the left of these another row of piles ran east and west ; to the north-east again were several circular clusters of piles ; these were not in rings, but grouped in clusters, and the piles were from 8 to 16 inches apart. To the left of this another row of piles and a plank 2 inches thick ran north and south. There were two other rows north of this and several detached piles, but no doubt several towards the north end had been removed before I arrived.

"The piles averaged 6 to 8 inches square ; others of smaller size measured 4 inches by 3, and one or two were as much as a foot square. They appeared to be roughly cut, as if with an axe, and pointed square ; there was no trace of iron shoeing on any of them, nor was there any appearance of metal fastenings in the planks ; they may have been tied to the piles, but if so the binding material had decayed. *Note.*—This applies chiefly to the south side ; towards the north I subsequently found a plank with several Roman nails in it, and the number of loose nails found in the soil above it showed that they must probably have belonged to some wooden superstructure which had perished.

"The planks averaged from 1 to 2 inches thick. The points of the piles were inserted from 1 to 2 feet in the gravel, and were for the most part well preserved ; but all the tops had rotted off at about 2 feet above the gravel, which I conclude must have been the surface of the ground, or of the water, at the time those structures were in existence."

"Owing no doubt to similar causes I was informed by the workmen that no superstructure of any kind was found here. A few Roman tiles from a foot to 16 inches square and 1 inch thick were interspersed amongst the piles, but not in sufficient numbers to lead to the inference that the piles were surmounted by any platform of those materials. Some of them had marks of fire on them. I only found two Roman bricks during the two months that I watched the excavations ; and I therefore conclude that the superstructure, if any, must have been of wood or some other perishable material and that it must have rotted with the tops of the piles."

"Amongst the articles of human workmanship found in the peat, the vast majority are undoubtedly of the Roman era. Amongst them are quantities of broken red Samian pottery, mostly plain, but some of it depicting men and animals in relief ; one specimen is stamped with the name of Macrinus. All this pottery, in the opinion of Mr. Franks, to whom I showed it, is of foreign manufacture. Other samples are of the kind supposed to have been manufactured in the Upchurch Marshes in Kent, and upon the site of St. Paul's Churchyard. Bronze and copper pins, iron knives, iron and bronze stylus, tweezers, iron shears, a piece of polished metal mirror, so bright that you may see your face in it (this Dr. Percy has pronounced to be of iron pyrites), white sulphuret of iron without alloy, an iron double-edged hatchet, an iron implement, apparently for dressing leather, a piece of a bronze

vessel, and other bronze and iron implements, which, thanks to the preserving properties of the peat, are all in excellent preservation. Amongst these were also a quantity of leather soles or sandals, some apparently much worn, and others, being thickly studded with hob-nails, may be recognized as the caliga of the Roman legions; also a piece of a tile with the letters P. P.R. B.R. stamped upon it. The coins found are those of Nerva, Vespasian, Trajan, Adrian, and Antoninus Pius.

"It is very remarkable that these Roman remains are interspersed at different levels from top to bottom throughout the peat, which, as I have already said, is from 7 to 9 feet thick, and, in the opinion of all competent judges who have seen it, is no doubt of natural growth. This, as regards the heavier articles of bronze and iron, might be accounted for by supposing that they had sunk to the bottom of the soft peat, but the lighter articles, such as fragments of pottery, shoe soles, and kitchen-middens were obviously deposited upon the surface at separate periods, with intervals of peat between, showing that it must have grown over the lower deposits before it received those lying above, and proving also that the ground must have been occupied during the whole time that the peat was in process of formation."

Three sections are given at the points A, B, and C on the plan, on which the position of the piles and the kitchen-middens are shown, the depth of the soil at these points being 17, 19, and 21 feet respectively.

A full description is given of these sections, in which occurs the following regarding Section A :

"At a foot and a half above the gravel in the peat is a layer of oyster and mussel shells about a foot thick, with a filtration of carbonate of lime permeating through the mass. In this kitchen-midden, Roman pottery and a Roman caliga were found. Close by, the point of a pile was found upright in the peat; it had been driven in in such a manner that the point descends to the level of the kitchen-midden and no further. Now as a pile, in order to obtain a holding, must have been driven at least 2 feet in the ground, it is evident the peat must have grown at least 1 foot above the summit of the kitchen-midden before this pile was driven in."

After giving full details of each section the author continues :

"Lastly, the soles of shoes and Roman pottery of the same kind as that found lower down have been taken out at the very top of the peat, so that the history of its growth may be read by the sections as follows :

1. Oak piles driven into the gravel, the tops of which rotted off at the surface before the peat had grown more than 2 or 3 feet.
2. A kitchen-midden deposited on peat a foot and a half thick during the Roman period. This may or may not have been contemporaneous with the first piles.

3. A growth of peat of 1 or 2 feet above this kitchen-midden, and other piles then driven in.
4. A kitchen-midden with *Bos longifrons* and Roman pottery at 3½ feet.
5. Another growth of peat and another kitchen-midden at 6 feet. And lastly, Roman remains at the very top. Trenches were also dug for the foundation in places where the gravel dipped as low as 22 feet from the surface, and still Roman pottery and other Roman remains were found everywhere in the peat.

"It is certainly difficult, if not impossible, to reconcile this enormous rise of 7 to 9 feet of peat during the four centuries of the Roman occupation with anything that has hitherto been conjectured respecting the growth of peat on the continent. Sir Charles Lyell, quoting Mons. Boucher de Perthes, gives the rate of increase at 3 centimètres in a century—this calculation would give little more than 4 inches for the period in question. It is true that he expressly states his belief that the increase is more rapid than this, and he moreover allows a large margin for the accelerated growth of loose spongy peat upon the surface; it would also appear probable that in the damp climate of England the peat would grow much more rapidly than on the continent.

"By information which I have received from the builder's foreman and others, it appears that throughout the whole tract of ground between this and the Thames similar remains of peat, piles, bones, and Roman pottery have been found.

"At the new Auction Mart, north of the Bank, piles have been found connected by camp-sheathings, as it is technically called by builders, that is by planks joining them horizontally.

"At the Mansion House, and in the line of the old Wall Brook, piles, peat and Roman pottery were discovered last year.

"Had the piles been found in lines running uniformly east and west, it might very naturally be assumed that they were laid down for the construction of dams across this brook, but they are also found to run north and south. The circular clusters could never have been so arranged for the construction of dams or wharfs, but have all the appearance of having been driven in for the support of buildings, besides which the kitchen-middens prove that habitations of some kind existed here. That they were occupied during the Roman period is also evident, but it does not necessarily follow that they were of Roman origin."

Subsequent to the reading of the paper, the excavations were continued towards the south end of the site, and the General, being anxious to obtain further evidence as to the thickness of the stratum containing Roman relics, determined to watch the operations for four or five hours continuously for several successive days. The result is as follows:

"Roman red Samian ware is found as high as 13 feet from the

surface, but very rarely, and in small quantities. At 15 feet it is frequently found, and from that depth it increases in quantity till the gravel is reached at 18 to 21 feet.

"The chief region of Roman remains is within 2 or 3 feet of the gravel. We came upon the tops of the piles at 16 feet; they were jagged and rotten, showing that they must have rotted off at that level. This was a point which I desired to have made clear by seeing the earth cut down from the surface until the piles were reached."

A large quantity of shoe leather bearing marks of use was found. Seventeen human skulls are recorded, all resting on the bottom, the highest being 17 feet from the surface. With these skulls only three human bones were found, although they were looked for.

RECORDS OF J. E. PRICE.

Among the numerous discoveries of Roman remains in London described by J. E. Price are several that occurred on the course of the Walbrook. These accounts are principally to be found in the *Transactions of the London and Middlesex Archaeological Society* and various monographs.

Price has also done good service in collecting a great deal of information relating to the Walbrook, which is accompanied by the map referred to above, on which the course of the stream is traced, largely based on the line taken by the sewers and the parish boundaries. This first appeared in 1869,¹ and was again published on a larger scale in 1870.² On this, the principal finds that have been made at various times along the course of the stream are marked. It is remarkable, however, that no recognition is made of the discoveries of General Pitt-Rivers in 1866, which showed the point at which the stream flowed south of the wall. This would have supplied the missing portion of its natural course and which is left blank on this map, as already pointed out.

The construction of Cannon Street Railway Station necessitated the excavation of the site of the Steelyard, formerly occupied by the merchants of the Hanseatic League. This was found to have been situated on the

¹ *London and Middlesex Archaeological Soc. Trans.*, III.

² *Roman Pavement found at Bucklersbury.*

filing of the eastern side of the ancient stream near where it emptied itself into the Thames.

The important discoveries which were then made on this site are recorded by Price in a paper entitled, "Reminiscences of the Steelyard formerly in Upper Thames Street,"¹ from which the following is extracted :

"From 20 to 25 feet appeared to be the average depth of the Roman level, and here, driven into the clay along the whole extent of the excavations, were numerous piles and transverse beams, extending right across the street and forming a complete network of timber. Many of these beams measured as much as 18 inches square, and all were of great strength and durability.

"They doubtless formed the old water-line and Thames Embankment fronting the southern portion of Roman London. Such beams were observed on both sides of the street, and many had probably been supports for the Roman buildings which so plentifully existed in the neighbourhood of Bush Lane and Scot's Yard. Towards Cannon Street were large masses of Roman masonry such as have been described by Mr. Roach-Smith in the twenty-ninth volume of *Archaeologia*. Much of this had to be removed, and it was interesting to observe how completely the old walls defied the appliances of modern engineering, the necessary dislodgments being only effected by the aid of gunpowder ; in some cases, I believe, the veritable Roman walls now form foundations for the support of the railway arches. In some places could be detected the junction of the clay and gravel with the soft black earth and refuse, betokening the course of the Wall-brook, which at Dowgate Dock flowed into the Thames.

"From the Steelyard there is a very elegant bronze in low relief, respecting which various conjectures have been made. Mr. Smith pronounces it a figure of Hope ; and he refers to the coins of Claudius with similar figures inscribed 'Spes Augusta.' It seems to have been affixed to a coffer or to some object as a decoration.

"Of coins may be selected large and middle brass of Claudius, Nero, Vespasian, and Domitian."

A great quantity and variety of pottery is mentioned, Samian and Upchurch wares being most plentiful.

"In glass, some pieces known as pillar moulding, which are very rare in London, though in some parts of England perfect vessels of this kind have at times been found. Pins, needles, knives, and spoons in large numbers both in bone and bronze. We have also some good Roman keys, a few fibulae, the beam of a pair of scales, and among the minor relics, a little fish-hook ; a plentiful supply, too, of Roman leather. Some of the sandals are beautifully preserved and indicate the moisture of the soil in which they were embedded."

¹ *London and Middlesex Archaeological Soc. Trans.*, III, 68.

Further observations on this site are made in a later paper "Notes on Roman Remains."¹

"Prior to the completion of these works" (excavations for the Railway, Cannon Street) "some additional discoveries were made which are worthy of attention, as indicating how densely occupied by buildings must have been this portion of Roman London. The numerous piles and transverse beams which extended across Thames Street were traced for a considerable distance along the river bank and in an upward direction towards Cannon Street. So complete a network of timber did they form, and so massive and durable were the means employed for holding the entire fabric together, that it is evident it was intended to resist a heavy strain or pressure. The Wall-brook here flowed into the Thames, and the drainage of the old city being on a different scale to what it now is, it is probable that the soil of the locality would be damp and yielding, and that some protection for the foundations of the buildings reared along the water-line would be necessary against the inroads of the river. Above this embankment, buildings of great magnitude must have existed, if we may judge from the strength and solidity of these foundations.

"A series of piles adjoining the line of this ancient stream were observed some years since in Princes Street and Lothbury at a depth of 12 feet from the surface, and their position clearly indicated the embankments of a water-course. They penetrated the earth to a depth of 5 or 6 feet, were of oak, and quite black from the boggy character of the soil."

Particulars are given of the remains of the buildings occupying the eastern bank of the stream, and the following relics are mentioned:—Fragments of pottery of "almost every known variety," "large numbers of styli," spoons of various forms in iron and bronze; knives of steel with bone ornamented handles; portions of whetstones, spindles of wood, bone wheels; a portable balance in bronze, and a series of keys. Among personal ornaments several bronze *fibulae*, one bearing a figure of a satyr, another harp-shaped, enamelled with a deep blue, and having a chain for suspension; fragments of bronze armlets, hair and dress pins, in ivory, bone, bronze, wood, and jet, also a variety of coloured and ribbed glass beads. Coins were represented by examples of Agrippa, Claudius, Nero, Vespasian, Titus, Domitian, and Trajan.

"Near Tokenhouse Yard and Lothbury many objects of interest have been found. This is a locality always rich in Roman remains. It was opposite Founder's Court, at a depth of 11 feet and some 20 feet westward of the westernmost gate of the Bank of England opening into

¹ *London and Middlesex Archaeological Soc. Trans.*, III, 212.

² *Ibid.*, III, 219.

Lothbury, that the celebrated pavement now in the British Museum was discovered in the spring of 1805."¹

Excavations in the neighbourhood of Blomfield Street in 1869 led to the discovery of an interesting cremated interment which is recorded by Price.² This consisted of several vessels of pottery and glass containing burnt human bones enclosed within a wooden box or cist. The wooden covering was of oak and of cubical form, measuring 18 inches on each side. It was closed with a domed shaped piece of earthenware, probably formed from the lower portion of an amphora. The vessels it contained were two urns of Upchurch ware, one $8\frac{5}{8}$ inches, the other $8\frac{1}{4}$ inches high, the latter being enclosed in a small wooden keg or tub, a bottle of bright green glass $14\frac{3}{4}$ inches high and 7 to 8 inches square, its mouth covered with a small cup or patera. An amphora 22 inches high was found in the soil adjoining, but no coins accompanied the burial.

The position of this discovery was beneath the site of Old Bethlem, a Priory of Canons founded in 1246, which stood on the east side of Moorfields. In speaking of the boundaries of St. Botolph's parish, Stow says³:

"From Bishopsgate under a part of which is the City Ditch they pass along to Petty France into Moorfields; under the wall and causeway thereof (towards Bethlem), there did run a ditch and from the north part of the said field still doth, so far as Hog Lane."

This spot would mark the east bank of the Roman stream at some little distance west of the road leading northwards from Bishopsgate and near to the ground where sepulchral remains were discovered in 1723. To the east of the highway lay the large burial-ground on Spittle Fields, the discovery of which in 1576 is so quaintly described by Stow.⁴ Both these sites are without the wall, but burials were also discovered at the west end of Camomile Street in 1707, within the wall and close to Bishopsgate. These occurred 4 feet below a tessellated pavement.⁵ All of these interments were associated with Roman coins of the early period.

¹ *Gentleman's Magazine*, 1843, 416, and Roach Smith's *Illustrations of Roman London*, 37.

² *London and Middlesex Arch. Soc. Trans.*, III, 219.

³ *Survey of London*, II, 9.

⁴ *Ibid.*, II, 98.

⁵ Dr. Woodward, *Remarks on the Ancient and Present State of London*, 1723, 12.

An account of discoveries made in the bed of the ancient stream at Bucklersbury is given by Price.¹

The space comprised in this excavation forms a triangle covering an area of 6,600 feet between Queen Victoria Street, Charlotte Row, and Bucklersbury. At this spot the later Walbrook passed, coming from beneath the Church of St. Mildred; it crossed the Poultry and ran by Bucklersbury, at which point it was crossed by a bridge.

A complete section of the bed of the older stream was disclosed,

"indeed the excavations have afforded plentiful illustrations of the wooden pilings placed along the line of the embankment and the gradual slope therefrom to the extreme depth of the river-bed.

"In the conduct of the works, trenches were first excavated for the foundations of the massive external walls. In that parallel with Charlotte Row there appeared at a depth of 25 feet from the surface level a timber flooring supported by huge oak timbers 12 inches square and running parallel with the stream. This was at the south corner and may have indicated a stage or landing place at this portion of the line. Adjoining this were evidences of a macadamised roadway, which extended in a line with Bucklersbury until it reached the apparent course of the brook. Upon the opposite side similar indications appeared and the remains possibly indicate a roadway which here crossed the stream.

"In the trench parallel with Bucklersbury a seam of ballast was disclosed at a depth of 35 feet. In this were quantities of wooden piles, many of which had been driven into the clay prior to the silting up around them of this sand and shingle. The greatest depth from which these piles were drawn was upwards of 40 feet from the street level."

Fragments of bricks, tiles and other remains of buildings were found, together with numerous coins and miscellaneous objects,

"all bore evidences of fire; portions of metal and glass were collected which by extreme heat had been melted into misshapen forms. At this spot there was also discovered a large quantity of wheat."

On the front facing Charlotte Row, on the north-east corner at a depth of 30 feet, a wooden framework of oak was come upon; this was 3 feet square with its four sides 8 inches wide, the timbers of which were $1\frac{1}{2}$ inches thick. It contained a quantity of pottery fragments of various descriptions. Above it was a quantity of wooden piling, which at this spot appeared in profusion and

"it had been clearly placed on the natural soil as a lasting monument and with some special intention as to its signification."

¹ *National Safe Deposit*, 873.

Price supposes it to have been an *Arcus finalis* or boundary monument. No coins were found contained in it, but

“amongst those found in the *débris* above it none that we have seen are later than the time of Antoninus Pius.”

Altogether nearly 70 coins were procured from this site, of which the writer says :

“They all belong to what is known as the best period of Roman history and to some extent they afford an indication of the age to which the recent discoveries belong. Of this series we have nothing later than the reign of Antoninus Pius and to this period, ranging from the time of Claudius, the chronological sequence is unbroken, and this abrupt cessation is sufficient for the assumption that our site formed part of the first Roman settlement and that most of the relics found at the extreme depth of the excavations are as early as the close of the second century of our era.”

A portion of a coarse description of flooring was found in the trench parallel with Queen Victoria Street and this Price supposes from its position to belong to the buildings connected with the tessellated pavement discovered three years previously, and which has formed the subject of another monograph by the same author.¹ This celebrated pavement was found at a depth of 19 feet from the level of the roadway (12 on map, Pl. VIII) at a very short distance from the course of the stream, to which it was parallel.

“In form it is a parallelogram, 13 feet wide and 12 feet 6 inches in length, exclusive of a semi-circular portion at its northern end of 7 feet 3 inches diameter, making its total length about 20 feet. It was enclosed by walls of brick and tile with blocks of chalk and ragstone about 18 inches thick. This rested on a chalk foundation laid on square wooden piles, pointed at the end, and from 3 to 4 feet long ; these were firmly driven into the clay.”

Flues of tile were found beneath it which had no doubt been connected with a hypocaust.

This beautiful pavement was carefully taken up and is now preserved in the Guildhall Museum.

THE EARLY CONDITION OF THE MOOR AND THE WALL.

It remains now to consider the conditions of the surface existing in early Roman times, on the ground which was occupied by the Moor, and the building of the City Wall in this part.

Sections in the locality show the London clay capped

¹ Roman Pavement at Bucklersbury, 1870.

with Old Thames gravels, which in places have patches of sand and clay; overlying these we find a layer of dark mud in which vegetable remains and fresh-water shells are found. This deposit is the result of the marsh and consists largely of peat. It is of much greater thickness in the lower parts nearer the wall, and is less evident to the north and west of Finsbury. On the north side of Finsbury Square it is wholly absent, and here a patch of clay 8 to 9 feet thick overlies the gravel (see Section No. 1, fig. 2). This spot formed a hillock on which in later times five windmills existed, as represented on Hollar's plan. J. T. Smith says,¹ "a part of which ground was within my memory called Mill Hill."

Until quite recently the lower part of Tabernacle Walk which adjoins this spot was called Windmill Street. Unfortunately this name has now been discontinued, the whole being called Tabernacle Street, thereby removing another landmark of historic interest, so many of which have lately disappeared owing to the unintelligent renaming of London streets that has taken place.

The fact that Roman remains have been found in this deposit formed by the "Moor," has led many observers to regard the marsh conditions as having existed at least from the time of the coming of the Romans, and to overlook the significance of the fact that not only did these relics extend to the bottom of this marsh-mud or peat, but that cremated interments had been found in the sub-adjacent gravel. Roach-Smith, who discovered urns in Eldon Street which he describes as "probably deposited for funeral purposes," says in endeavouring to account for their presence in the marsh, "portions however seem to have been drained or filled in by the Romans."²

Price evidently followed Roach-Smith, whose opinion he quotes, in holding this view, but the difficulty of accounting for the discovery of the interment in Blomfield Street led him to make the following observations regarding the marsh³ :—

"That this was not always its condition is tolerably certain. We can imagine it in primitive times as literally 'moor' and 'fields,' an open site bounded by woods and forests, and intersected by brooks and streams which had perhaps pursued their course for centuries; and as

¹ *Topographical Antiquities*, 36.

² *Archæologia*, XXIX, 153.

³ *London and Middlesex Arch. Soc. Trans.*, III, 495.

altogether a spot offering advantages to the Roman settlers, though it is a noteworthy circumstance that the growth of the city was slower in this than in other quarters. A locality, however, mostly under water would not have been selected by the Romans either as a place for sepulture or for any other purpose. The boggy, fenny character of the district is rather the result of excavation in later days for the purpose of procuring clay for brick-making."

The true conditions originally prevailing were seen, however, by Sir William Tite, who says¹:

"The marshy nature of the soil on the north of London was for many centuries so notorious as seemingly to have led to the conclusion that the land had been the same at all periods of the history of the metropolis."

"That much of the ground on the north side of the city wall was anciently dry, and that not any marsh originally existed there was further proved during the construction of a sewer in London Wall, to which the cutting ran parallel and below its basis."

After describing the culvert already referred to, he continues:

"As the depth from the present surface to the bottom of the sewer was 18 feet 4 inches, and the open ditch of the fortress was still deeper, it is evident that, at the time when they were constructed, the adjacent ground was dry and substantial, for the later accumulation of soil was so soft that at one part the bricks could scarcely be laid. The ground gradually improved in consistency up to the north end of Bloomfield Street and at Wilson Street strong gravel was reached, containing a very fine flow of water."

Sir William Tite concludes from the evidence of Fitz Stephen that

"on the north of London were corn-fields, pastures, and delightful meadows intersected by pleasant streams, on which stood many a mill."

In another place Fitz Stephen says:

"when that vast fen (or lake) which waters the walls of the city towards the north, is hard frozen,"

and Sir W. Tite suggests that this place was really a piece of water in which the city possessed the right of fishery, and supposes

"that the marsh was gradually and artificially increased, especially about the year 1213, when the citizens completed a series of ditches to surround and strengthen the walls of London."

However true this last conclusion may be as to the extension of the marsh in later times, it is also evident from the occurrence of Roman relics in the lower portion of the marsh deposit that these conditions had prevailed for a considerable portion of the Roman occupation. The

¹ *Catalogue Royal Exchange*, xxix.

examination of the deposit recently disclosed, however, quite bears out Sir William Tite's opinion that this part was in an earlier stage a sheet of water.

The portion of moor on the site recently excavated (see Section 5 in fig. 2) though it is at the side of the bed of the stream, is sufficiently far from it to have been out of its reach under normal conditions, being about 80 feet from the west bank. Here the soil overlying the gravel to a height of about 4 feet contained evidences of the Roman age and none other. Above this level the objects of later times appeared, the whole being regularly laid, and nowhere was there any evidence of disturbance or mixture of relics of different periods such as would have occurred had this ground been dug for clay in later times, as suggested by Price, to account for the boggy and fenny character of the district. When the extent of the moor is considered, it will readily be seen that the brick-making operations, while not tending to improve the conditions of the marsh, could not possibly have produced them. We must look for other reasons to account for a surface of gravel which in early Roman times was dry and substantial, becoming converted into a marsh which had accumulated 4 feet of mud by the end of the Roman occupation. This, I venture to think, came about through the building of the City Wall, the line of which, it will be seen by the plan, ran directly across the ancient stream, and cuts through a mass of habitations situated on piles driven into the river-bed, the remains of which within the wall were discovered by General Pitt-Rivers, while those without have been recently disclosed and will be hereafter described.

The wall was practically intact between Moorgate and Bishopsgate in 1723, as mentioned by Dr. Woodward¹ in his letter to Thomas Hearne :—

"You'll find a pretty full and particular description of that part of London Wall that joined to Bishopsgate. It consisted of three different sorts of work, rais'd in three several ranges, one over an other. Any one who has the curiosity to see a sample of the uppermost yet standing, may do it on each side Moorgate, for a considerable extent; as also of the middlemost; especially on the west side of that gate, at a distance of about 20 or 30 paces, where 'tis yet firm and has suffered very little dilapidation."

¹ *Remarks on the Ancient and Present State of London*, 1723, 43.

Two fragments of this wall yet remain, one by the church of All Hallows, the other, preserved by the Corporation, to the west of Moorgate Street. J. T. Smith gives two excellent views in his *Topographical Antiquities* of the portion of the wall, between these two points, while it served to divide Bedlam from the street. These were taken shortly before Bedlam was pulled down; one of these views is here reproduced (Pl. I) and it shows some of the windows of the cells of that institution, from which hang toys belonging to the unfortunate inmates. Smith, in his description, says¹:—

“The opposite plate presents short specimens of that great portion of London Wall which extends 714 feet westward from the ground which faces the north end of Winchester Street nearly to the spot where Moorgate stood. The chief part of that great length of wall consists of three distinct characters. First an inside one of chalk and flint, cased on either side with a rubble one of rag-stone strongly cemented together. This wall is in some places about 8 feet thick, and 8 feet high from the present pavement where the mud raker is (see the print), but it must have originally been commenced at a depth considerably below him, as may be seen whenever the ground is opened. The third character is a tessellated or partly-glazed brick wall, surmounted with battlements coped with stone. It is erected upon 2 feet 3 inches of the cased wall, on that side next to the City Ditch, and is in height from the top of the cased wall to the top of the stone coping 8 feet; the space between the battlements is 2 feet 6 inches.”

Little record seems to have been made of its subsequent history, but Tite says it remained almost complete until 1817, and that its foundation was under a layer of Roman bricks, and refers to J. T. Smith's statement

‘and a so-called Roman arch, just at the end of Winchester Street, shown by an imperfect sketch in Mr. Roach-Smith's book, gives indication of Roman work existing there or thereabouts.’²

Timbs³ mentions that

“in 1818 a large portion of the wall on both sides of Moorgate was demolished.”

This destruction no doubt applies only to the upper portion, as until lately the site it occupied was represented by the pavement on the north side of the present street and its destruction to any great depth would possibly not have been necessary. As the street has been

¹ *Topographical Antiquities*, 28.

³ *Curiosities of London*, 1855, 650.

² *Archæologia*, XL, 299.

recently widened, portions of the foundations may at present lie under the roadway.

Hughson¹ mentions the demolition of the wall :—

“Directing our attention again to the city, we observe the old north wall of London running behind the site of Old Bethlem Hospital, entirely taken down, which has thrown open to public view the area of the new square, enclosed with handsome iron railings. The wall was found uncommonly thick, and the bricks double the size of those now used. The centre had been filled in with large loose stones, etc.; the line of wall now removed is partly the last vestige of that which remained of a circumference of 3 miles and 205 yards.”

Beyond the allusions to the foundations of the wall in connection with the culverts, I have been unable to find any precise record concerning them in this district.

Roach-Smith² describes the culvert as

“running beneath the foundations of the London Wall in London Wall, opposite Finsbury Chambers.”

There seems little doubt that the culverts mark the base of the wall, this level being the top of the gravel, which was the original surface, on which the foundations have been found in other places where they have been recorded.

In many parts of this surface patches of clay occur, sometimes as at Moorgate Street (Section 2, fig. 2) several seams of clay are alternated with layers of gravel, while in other places the London clay comes up to what was the surface in Roman times. Two methods of building the foundations of the wall were adopted by the Roman builders. In those parts where the clay formed the surface, a trench was dug in it which was filled with flints and puddled clay; on this the wall was built, as is described by Mr. G. E. Fox, in his account of the portion examined by him at Aldersgate,³ and in the case of the fragment found near the Tower which is described by Roach-Smith.⁴

Where however gravel occurred it was considered a sufficiently good base to build directly upon, without resorting to the trench and puddled clay.

Two fragments of this description have recently been carefully examined by Mr. John Terry,⁵ one at the Old

¹ *Walks in London*, 1817, 355.

⁴ *Illustrations of Roman London*, 15.

² *Illustrations of Roman London*, 170.

⁵ *London and Middlesex Arch. Soc. Trans.*, N.S., I, 351 and 356.

³ *Archæologia*, LII, 609.

Bailey, the other at Cripplegate, of both of which he notes that the foundations were found "on the ballast." That the wall was built when the gravel formed the existing surface at Moorfields and before the marsh-mud had accumulated over it, I hope to be able to show later.

Perhaps on no point relating to early London have archaeologists been more universally in agreement than the late date of the building of the City Wall,¹ and this on the strength of the most slender evidence.

The various reasons urged in favour of this are:—the large extent of the area enclosed, and the gradual growth shown by interments of the earlier period within the wall; the absence of reference to Londinium by the ancient writers, as a city of importance until late time; the method of building and the materials employed in its construction, which differ from the work of the best period at Rome.

The fact that London was ravaged by the bands of Allectus, and easily captured by the troops of Asclepiodatus in A.D. 297, has been considered by some as sufficient reason for concluding that the town was not defended by a wall in the time of Constantius.

Tradition has ascribed its erection to the Empress Helena about A.D. 306, as related by Simeon of Durham, an historian of the twelfth century. The belief that Helena was a British princess appears to be the foundation of this tradition, but the period assigned has been thought by many to be probable.

The still later date of Theodosius perhaps finds most favour. Theodosius in A.D. 367 delivered London from an attack of the Picts and Scots, and he is recorded to have repaired walls and restored strongholds. It was during the reign of this emperor that Londinium assumed the title of Augusta, which has been thought to signify its extension and circumvallation. Others have considered the wall as one of the last acts of the Romans before abandoning the island.

Of all the reasons given for its late construction perhaps that of the style in which it is built carries the most weight, but against this it has been pointed out that

¹ Roach-Smith, *Archaeologia*, XXIX, 295. J. E. Price, *A Bastion of*
160. Sir Wm. Tite, *Archaeologia*, XL, *London Wall*, 7, etc.

in distant colonies the Romans did not always follow the practices usual at home and invariably made use of the best materials to hand.

At whatever period of the Roman occupation the wall may have been built, the means taken to carry the stream through it, so as not to weaken the defence, must have been a question of some importance. It is one however to which investigators do not appear to have given their attention, owing probably to their having failed to recognize that the stream was so large and important when the wall was erected, regarding the formation of the marsh and the attenuation of the stream at this time as already accomplished. This of course would be a natural inference if the construction of the wall took place at the late date which has usually been ascribed to it.

On reference to the map (fig. 8) it will be seen that the positions of the culverts described by Roach-Smith and Sir William Tite come directly in the course of the stream, the line of which has now been determined by the recent excavations, and I venture to suggest that these were two of a series of culverts by means of which the stream was carried through the wall. The depth at which they occur is quite in agreement with their having served this purpose, the lower one being at the precise depth at which the river bed is found at this spot, and the reason that the other is on a higher level may be that it served to carry off the flood water, as it eventually fell into a ditch on the south side, which is said to have been "still deeper," and this would bring the level of both to about the same on the south side. As the thickness of the wall does not exceed 10 or 12 feet, the greater length of these culverts may perhaps be explained by their having to pass not only through the wall but under the bank and street within. As the position they occupy only affects a portion of the eastern side of the stream, we may suppose that several others originally existed to the west of them.

THE RECENT DISCOVERIES.

We will now pass to that portion of the stream recently examined by Mr. Kennard and myself. This forms, as I have already said, the part of the main branch at the point

where it was crossed by the wall, extending to the north as far as Finsbury House and running parallel with Blomfield Street. The centre of the stream, in Roman times, would be a little to the west of the western side of Blomfield Street.

The bank of the stream was clearly showing at one point in the earlier part of the excavation, before my

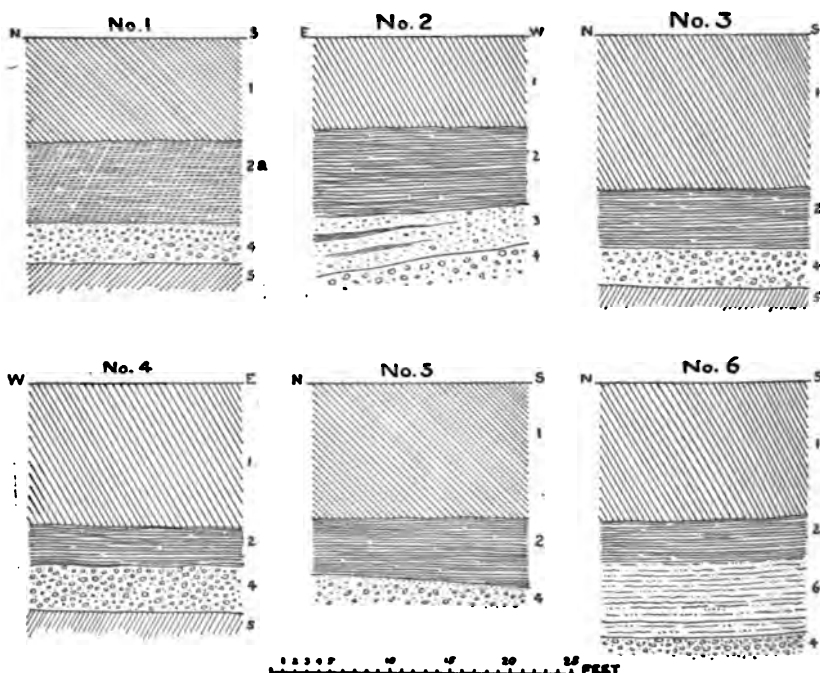


FIG. 2.—SECTIONS TAKEN IN THE NEIGHBOURHOOD OF MOORFIELDS.

No. 1. North-west corner of Finsbury Square.

No. 2. Moorgate Street, near Chiswell Street.

No. 3. Site of New Moorfields Chapel, Eldon Street.

No. 4. Moorgate Street, Electra House.

No. 5. South-east portion of Finsbury Circus.

No. 6. Site of Old Moorfields Chapel. The bed of the stream.

arrival on the scene, but this was noted by Mr. Kennard and was about 70 feet westward from the street. So far as we could see, it did not appear to be very well marked throughout its course, probably from its being a shallow stream, and having, in this part, no very defined banks. This appears to be borne out by a number of sections which I have been able to obtain in the locality and which show the surrounding surface to have been in most

places only a few feet higher than the bed of the stream (see fig. 2). The discoveries of interments in Blomfield Street mark the eastern banks, and show the valley of the stream therefore to have been about 100 to 120 feet wide in this part.

Generally speaking, the result of our examination of the deposit agrees with the descriptions of General Pitt-Rivers, of which our record forms another chapter, but it differs in some important details. The base of the stream was found by us at a depth of 22 feet at the deepest part. Above this, the filling, while being more or less of a peaty nature, differed considerably in its composition at the various levels. (See section, fig. 3.)

Commencing from the lowest, the bottom of the stream overlying the river ballast was composed of a fine sandy deposit about 1 foot in thickness. Above this was about 4 feet 6 inches to 5 feet of sand and carbonaceous silt; this passes gradually into the peat, which is at first of a light colour, but becomes very black at about 11 feet from the base; this again passes into light peat. At those places where it was not cut into by the foundations of the houses that stood above, it rises to within 6 feet of the surface, after which the soil is largely composed of modern rubbish.

All these deposits had been regularly formed, and it was evident that no disturbance had taken place in them, such as might occur in a swift flowing stream liable to sudden floods, neither did we see any evidence that previous excavations had been made.

With regard to the relics in these layers, nothing was found that could possibly be referred to an earlier period than the Romano-British. Not a scrap of pottery or any object of earlier date was found anywhere in the digging. At the lowest level in the sand overlying the river-ballast very little occurred, beyond several fragments of the well known Romano-British black ware ornamented with diagonal lines and also some of the grey ware. Several of these were resting quite on the bottom of this layer. Roman objects were found uninterruptedly to a height of about 9 feet, but by far the greater quantity was at a level of from 3 feet 6 inches to 6 feet from the base. This forms the level of the upper part of the piles

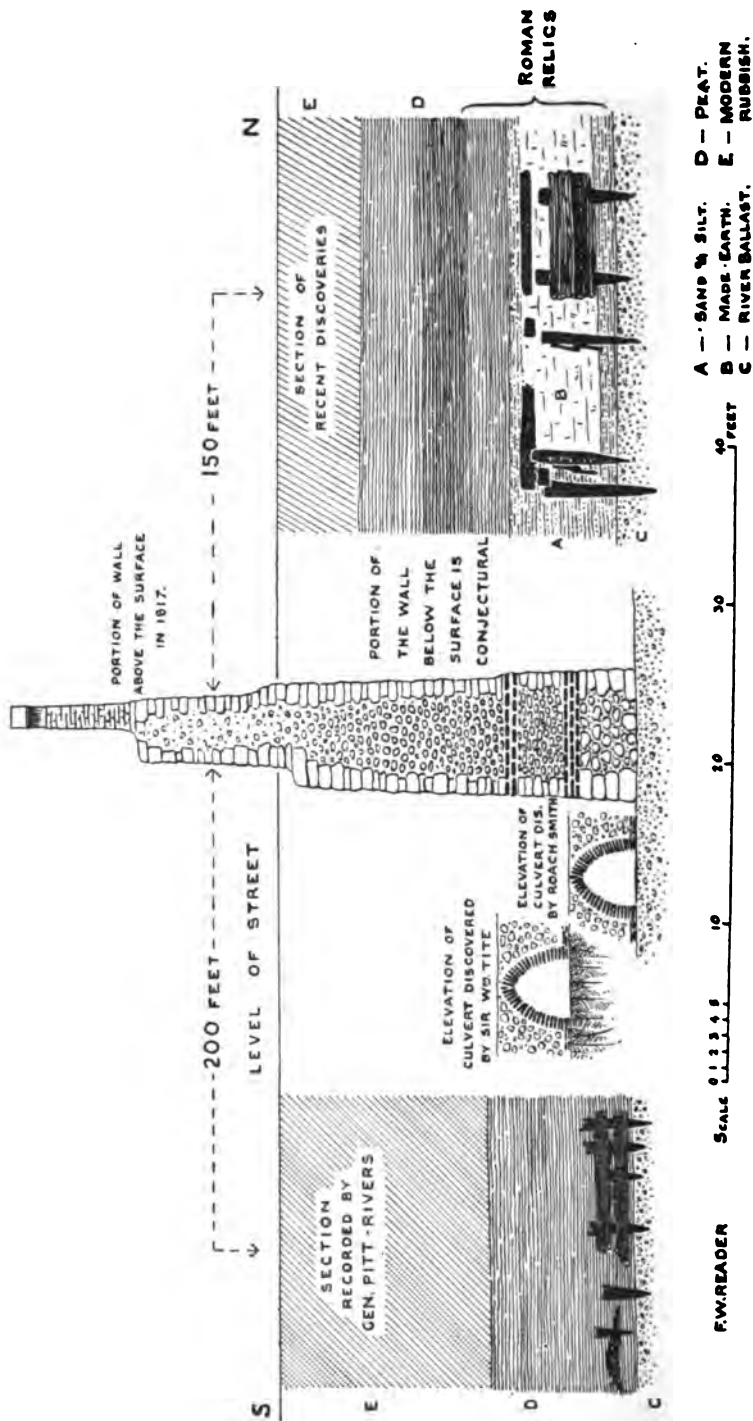


FIG. 3.—SECTIONS SHOWING COMPARATIVE LEVELS N. AND S. OF LONDON WALL AT MOORFIELDS.

which occur here. Above this, in the light lower peat, objects became scarcer and ultimately blended with those of later date; nothing Roman was found higher than 9 feet 6 inches, from which level the black peat and the upper light peat contained plentiful evidence of the mediaeval period. It will be seen by a comparison of our section with that of General Pitt-Rivers, that the period of the formation of the peat differs. From General Pitt-Rivers's description, the peat in his portion clearly belongs to the Roman period. In the part examined by us, the lower deposit constituting the Roman level is for the larger part composed of sand and silt, which gradually passes into peat, only 3 feet of which contained Roman relics, the greater portion of the peat growth north of the wall clearly belonging to a later age. The difference will, perhaps, be better seen on reference to the general section (fig. 3), on which the principal characters of both sites have been projected relatively as to depth, together with the wall and the two culverts which have been referred to above, in elevation.

Now the two sites being contiguous, separated only by the wall, would by this difference in their character present a problem very difficult to solve if we are to suppose that the marsh was formed before the construction of the wall. If, however, we allow that the wall was built on the surface represented by the gravel, previously to the appearance of the marsh, we have then, I venture to think, not only no difficulty, but are actually provided with corroborative evidence.

The wall passing across the bed of the stream, with only small low openings by which it could pass, would have partially dammed the water, checking its flow within the city from the north, while the wall on the south or Thames side, the remains of which were discovered by Roach-Smith,¹ and the line of which is represented by Thames Street, would have checked its outfall into the Thames and prevented the action of the tides, while the numerous pile structures constructed in its course served to accumulate *débris* and form further obstruction. In this way it is less difficult to understand how a river which had not commenced to deposit its bed

¹ *Archaeologia*, XXIX, 148.

up to Roman times, should during those times have become filled with peat growth to a height of 9 feet, which General Pitt-Rivers finds so unaccountable. The building of these two walls might well have converted what was probably a tidal stream into a sluggish, almost placid water, which would have been favourable to the growth of peat, while the refuse from a numerous population living on the banks within the city would soon accumulate to fill the bed.

Northwards the stream would remain unchecked until reaching the wall, bringing down the sand washed from the higher land, which would be deposited before the water found its way under the wall.

In the course of time, as the entrance of the culverts became buried, the water would accumulate to form the swamp which is known to have formerly existed north of the wall from Cripplegate to Bishopsgate, only that water reaching the other side which could work its way at a low level along the top of the London clay.

In this manner the stream still flows, for in addition to the water at a higher level which now runs in the sewers, a strong flow of water is also found whenever the gravel beneath is dug into in this locality.

In later times the water which spread itself along the north of the wall would have soaked under it, causing a broad swamp to exist also to the south of the wall for some distance, until the water was again able to find its way into the original river-bed, causing by reason of its choked passage a stretch of morass right through the city, broader where it adjoined the wall and narrowing in the lower portion, probably to the limits of the old stream.

That this condition of things existed is amply verified by the nature of the soil that has been met with in these parts, and also by the observations of Roach-Smith, who, apparently without recognizing the cause, states the fact that

“so far as we are authorized to judge from discoveries made at various times in almost all parts, we may safely conclude that the streets and buildings of the Roman city, if not quite so dense and continuous as those of the modern city, left but little space throughout the entire area unoccupied, except a portion of the district between Lothbury and Princes Street and London Wall, and the ground adjoining the wall

from Moorgate towards Bishopsgate. We find also, as might have been expected, that generally towards the northern wall the vestiges of buildings are by no means so numerous nor so densely packed as towards the south and in the centre."

Not only was this true of Roman times, but it seems to have continued to be unsuitable for habitation down to a very late period even after the level of the surface had become considerably heightened by continual occupation above the level of the moor, and the later Walbrook had settled into its more restricted course.

The maps of Aggas and Braun show that even so late as the sixteenth century the ground adjoining the wall from Moorgate to Bishopsgate consisted of gardens, to a far greater extent than any other part of the city. This ground is bounded by a roadway made up of Broad Street, Lothbury, Gresham Street, and Coleman Street, while in the intervening space no other roads are shown.

At an earlier time this unoccupied ground was probably of greater extent, for on the east the ground between Broad Street and Bishopsgate Street and that on the west between Coleman Street and Aldermanbury has also a large proportion of garden ground. The building of Moorgate, in 1415, doubtless led to the formation of Coleman Street, so that probably no important street traversed the whole of the space lying between Bishopsgate and Cripplegate before this time.

It will be seen that there is not only a great absence of streets running north and south, in this space, but in the parts of the city below this which represent the ancient water-course there are also more gardens than in the ground on either side. The various streets crossing it from east to west were no doubt connected by the numerous bridges which we are told crossed the later stream.

This is further borne out by a statement of Fabyn,² which becomes by this explanation easier to understand. In describing the destruction of London by fire, in the reign of Ethelred, A.D. 981, he says:

"Ye shall understand that at this daye the cytye of London had most housynge and buildyng from Ludgate toward Westmenster & lytell

¹ *Illustrations of Roman London*, 21.

² *Ed.* 1533, cxxi.

or none where the cheefe or herte of the cytye ys now, except that in dyvers places was housynge, but they stode withoute order."

Such conditions as have just been described would preclude us from regarding the position of the streets of later times as having followed to any extent the original plan as laid down when Londinium was first walled to its ultimate limits. Continual raising of the level, and consequent improvement in the condition of the ground, no doubt contributed to alteration in the line of the streets not only during Roman times but in subsequent ages, and helped to bring about the arrangement that has been regarded as so irregular and concerning which there has been so much speculation.

Judging from Sir Christopher Wren's discoveries¹ when digging for the foundations of Bow Church, it seems that the swamp, at one time, must have extended at least as far as Cheapside, for there, at a depth of 18 feet, he found a Roman causeway, which was 4 feet in thickness, formed of stone and Roman brick, and "which ran for the whole length of the town." This he was led to regard as the northern boundary of the earlier Roman city, because to the north of it "was a great fen or morass." This view, in a sense, is perhaps correct.

The roadway found at Bucklersbury,² which ran along the Poultry, is considered by Price to have been the continuation of the causeway of Sir Christopher Wren, crossing the Walbrook by a bridge at this point.

Although Roman pavements have been discovered on the north of Cheapside,³ the level at which they have occurred is 17 feet from the surface, or 5 feet above the bottom of the causeway. It seems probable therefore, that at one time nearly the whole of the northern portion of the city had to be abandoned owing to the morass, and this causeway formed the barrier to its further approach southwards. In the course of time, as the conditions improved, the line of occupied ground was carried further north, the result of this being the two concentric curves of street, the southern one running from Bishopsgate along Cornhill and Cheapside, that to

¹ *Parentalia*, 1750, 265.

² *National Safe Deposit*, 49.

³ *Lond. and Middlesex Trans.*, II.



F. W. R. photo.

EXCAVATIONS SHOWING PART OF STRUCTURE A.

the north being formed by Broad Street and Lothbury and Gresham Street.

Even as late as 1090, Cheapside was unpaved, and the roadway very yielding and unsubstantial, as Stow records that when the steeple of Bow Church fell, portions of it are said to have penetrated the earth as far as 22 feet.¹

The stream spoken of by Maitland² as running along Cheapside may very probably have been a drain following the line of the causeway into the Walbrook.

The Pile Structures.

Before describing the piles which correspond to those pointed out by General Pitt-Rivers as having formed supports for pile-dwellings, it will be well to say that piles occurred in other parts of the filling, which belong to later periods. The majority of these were of recent date and were driven in to form a footing for the foundations of the houses which were built here in the early nineteenth century, and a few appeared to have been placed there in earlier times.

Piles occur in many places in London and have served various purposes at different periods, so that of themselves, without some strong corroboration, they would form but doubtful evidence of pile-dwellings; their age also might be very difficult to determine, as they would easily have been driven from the surface to lower levels in such soft soil.

Many of the Roman pavements have been found to be resting on piles; the wall on the river side was supported on piles, and the piles with planks, described by Roach-Smith, in the lower portions of the Walbrook appear to have been for strengthening the banks. They might also have been used for damming the stream, as pointed out by General Pitt-Rivers, though, as he shows, the position of those discovered by him was not compatible with this explanation.

Those examined by us were clearly distinguishable from those of later date, none of these latter having reached the lower levels. Of the piles in the earlier

¹ Stow's *Survey*, III, 21.

² *History of London*, II, 826.

portion of the digging very little can be said, as the circumstances were unfavourable for investigation, but piles were met with throughout that part of the excavation which marks the bed of the stream. Our observations of the pile structures are therefore confined to the portion A, B, C, D on the plan (fig. 4). They

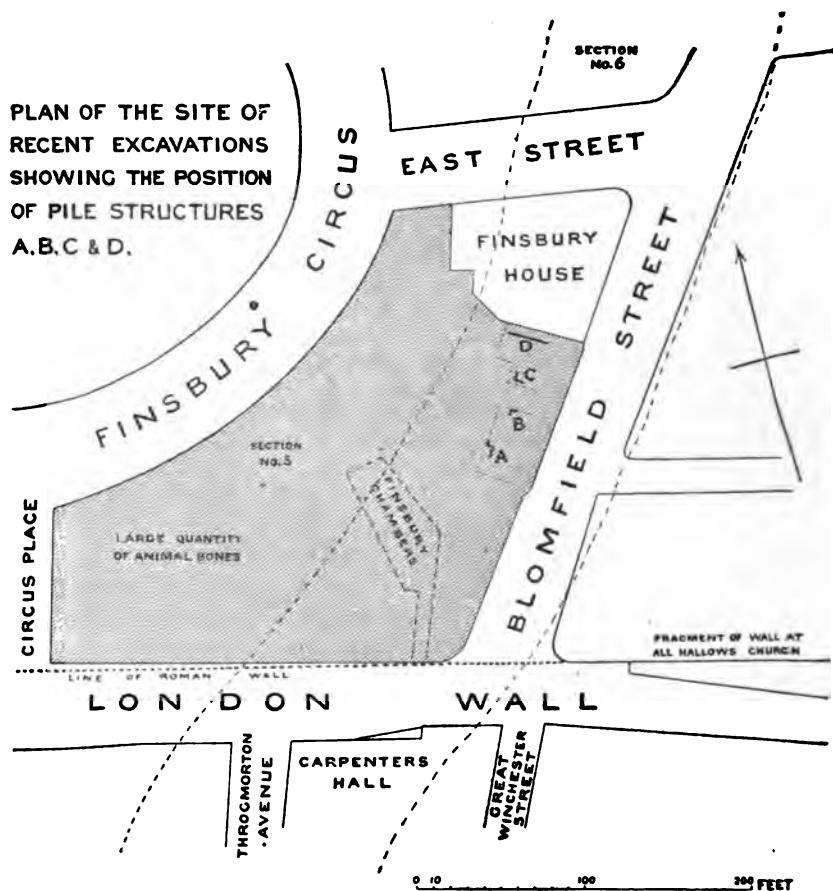


FIG. 4.

consisted for the most part of platforms, formed by short piles against which planks were placed, so as to form compartments which were filled with earth and rubbish. On this platform, the height of which would appear to have been just above the water level at the time of their construction, the dwellings were erected, many of the

horizontal timbers of the ground level remaining, as were also fragments of shaped and mortised wood which are doubtless portions of the superstructures.

The Piles.

The piles were made of split logs averaging from 4 feet to 6 feet in length, and 6 inches to 10 inches thick at the top, tapering to a roughly hewn point, which in most cases was square in section. These were driven into the sand, which apparently formed the bed of the stream at the time, as very few of the piles penetrated the gravel more than a few inches.

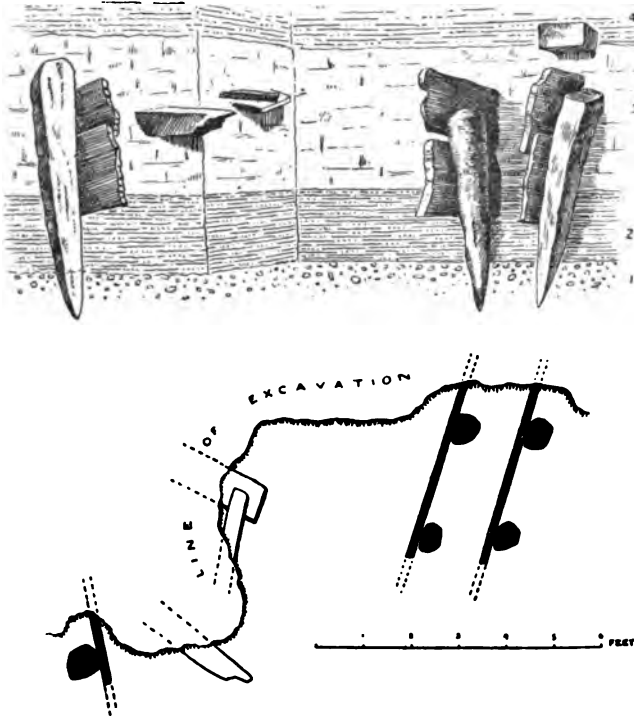


FIG. 5.—STRUCTURE A.

The Planks.

The planks were well formed, about $1\frac{1}{2}$ to 2 inches thick, and averaged from 9 inches to 1 foot 6 inches in width. one was as much as 2 feet 5 inches wide.

In length some of them reached 6 feet, but most of them had been partly destroyed by the workmen when found by us, and others we were unable to clear sufficiently to ascertain their full length, or they would no doubt have proved to be much longer. None of the planks were fastened to the piles by nails, though nails were found in great numbers mixed with the soil around the structures and particularly just overlying them. Several portions of the superstructures were also found containing nails.

In nearly all cases, two planks were used to form the wall or partition of the platform, and these were placed so as to slightly overlap. The lower plank was in most cases just resting on the level of the sand or extended only a few inches into it. We had no opportunity, as I have said, of ascertaining how these piles were arranged in plan, except in detached fragments. In one instance (Structure A), the position of four piles was obtained; these were from 2 to 3 feet apart and connected by planks laid against them, forming two parallel walls 1 foot 6 inches apart. So far as we could see, the greater number of these planks were placed connecting the piles at all angles, and their direction was not regulated by the line of the stream, nor set against it. Sometimes they were in parallel rows as in structure A, but in others they were diagonally placed, the end of one plank resting against the side of another as in structure C, so as to form partitions dividing the platforms into compartments. From their position with regard to the piles, most of the planks could have been held in position simply by the weight of the earth with which the compartments were filled. But some, however, were placed outside the piles, as at A in structure D, in which position they could not have remained without a fastening of some kind. It may be, of course, that piles did exist on the outside of these planks at some point beyond the area which we were able to examine.

The large number of well-formed planks, some of great size, is noteworthy, and it seems evident that their formation was a matter of no difficulty to the people who made these constructions. The method of their manufacture was not apparent from any marks that could be detected on their surface.

Nothing could have been more clear than the artificial nature of the filling between the planks. Not only did it differ entirely from the ordinary deposit at this level and contain great quantities of pottery fragments, bones, *etc.*, but often the earth separated only by the thin plank partition was of a totally different description and such as anyone with experience in excavations would recognize as made earth. As distinct from the water-laid deposit at the same level, this artificial construction was very clearly

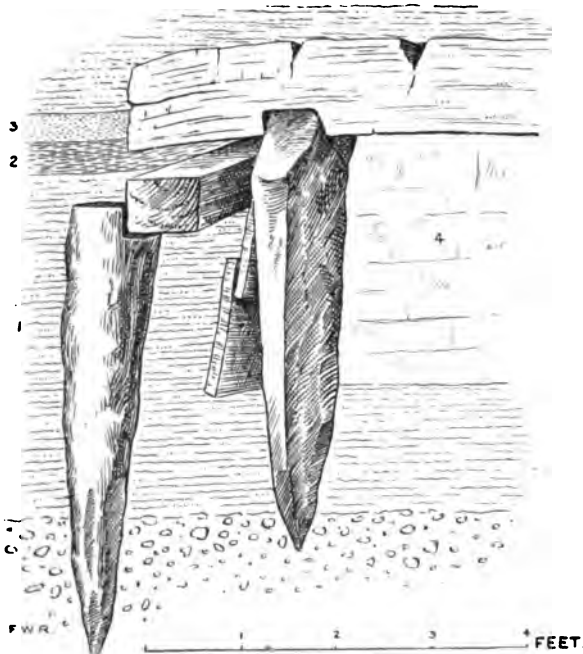


FIG. 8.—STRUCTURE B.

shown in the last few feet of the digging, immediately adjoining Finsbury House. (Fig. 8.)

Here the features revealed in the section were remarkably clear. Between two of the platforms was a space 11 feet 6 inches wide, the sides and bottom of which were boarded with planks. The flooring was laid just on the top of the sand, which then presumably formed the river bottom.

We were unfortunately unable to complete the examination of this curious construction, but we dug in one

corner and found the flooring for about 2 feet. It apparently extended for a considerable distance, both on the side where the workmen had cut it away and onwards towards Finsbury House, but it was destroyed before we could examine it further.

Whether this construction formed a channel in the stream, a dock, or a pit, it was evidently open when the platforms were made, and subsequently became filled with

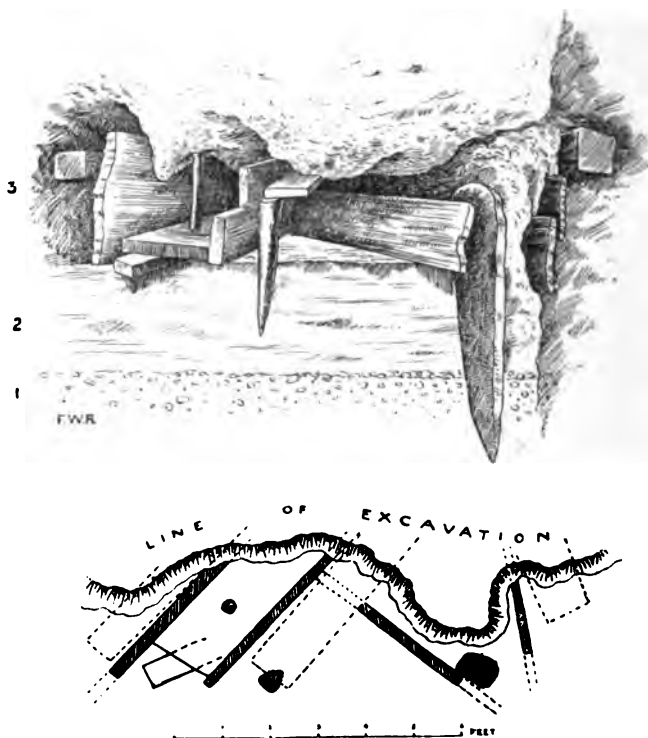


FIG. 7.—STRUCTURE C.

a sandy deposit washed in by the stream. That this filling was water-laid could be beautifully seen on the exposed section by a thin seam of fine white sand, evidently the effect of some flood. It was 2 or 3 inches thick and it sagged into the filling of the pit, with its ends resting on the tops of the platforms on either side, proving that they were constructed before the river bed had filled up to their level. (See 5 on fig. 8.)

Again, the difference was shown by the relics, every shovelful of earth from the platforms containing some fragments of pottery, bones, oyster-shells, nails, *etc.*, while not a scrap of anything denoting human agency was found in the filling of the pit, although a considerable quantity of it was removed. We may therefore reasonably conclude that the silting up took place after this site had ceased to be occupied.

General Pitt-Rivers states that

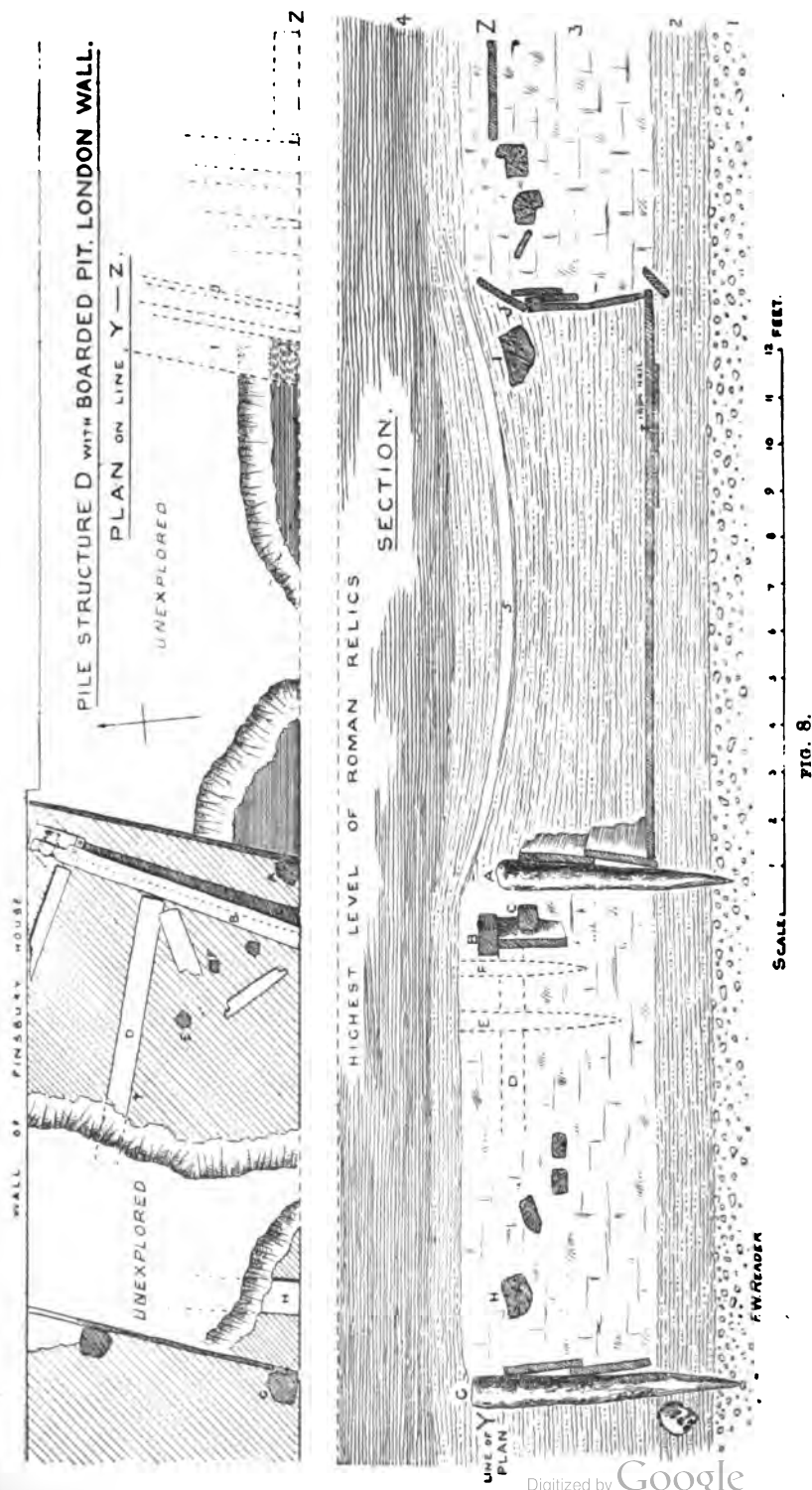
"all the tops of the piles had rotted off at about 2 feet above the ground," which he concludes

"must have been the surface of the ground or the water when the structures were in existence."

We, on the contrary, found that not only were the piles perfectly preserved, but also the horizontal timbers resting just above, which I take to represent the plates on which the dwellings were raised. In some cases the piles were mortised into the horizontal beams (structure B, fig. 6). Not only was this the case, but in the soil just overlying the tops of the piles numerous pieces of shaped wood, some containing nails, were found, which were evidently the remains of the superstructure which had fallen. The majority of these were found on the west side of the pit (fig. 8), but the ends of timbers were showing in most of the sections at this level and would doubtless have proved to be of a similar nature had they been further examined. Those on the west side of the pit we were able to investigate thoroughly, owing to the top layers of soil having been first removed, almost down to the level of the tops of the platforms.

We have therefore a striking difference in the conditions found by us, as compared with those of General Pitt-Rivers, who records that all the tops of the piles were "jagged and rotten," that they reached only to a height of 2 feet above the gravel, and that no remains of the superstructure were found, only one plank containing nails being recorded.

In the part examined by us the piles were perfect and were on an average 4 feet to 4 feet 6 inches above the gravel; over the well-preserved tops lay horizontal beams, into some of which the piles were mortised, while scattered



in the soil above were plentiful remains of the super-structures, the whole forming a platform or foundation which stood 3 feet 6 inches to 4 feet above the bottom of the river.

Should the reasons which I have put forward to explain the difference in the period of the peat formation of these two adjacent sites be thought satisfactory, then they would equally serve to explain these further discrepancies. The reduction in the volume of water south of the wall would have left the upper portion of the pile-structures exposed to the weather, while on the north they would have become covered up and have been preserved by the accumulation of water in this part.

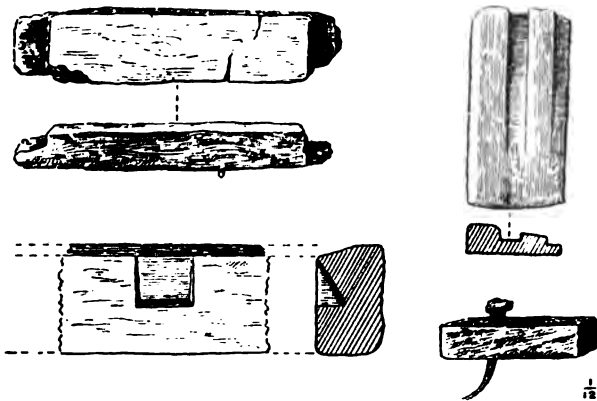


FIG. 9.—WORKED PIECES OF TIMBER.

The kitchen-middens found by General Pitt-Rivers make another point of difference between the two sites. Nothing of this nature was noticed by us, though from General Pitt-Rivers's account we expected them and looked for them. Their absence is consistent with the foregoing conclusions. When the whole settlement was occupied before the erection of the wall, the stream flowed freely between the structures, carrying away the refuse as it was thrown into it. After the wall was built, the structures to the north of it were abandoned, either from their unprotected condition from some threatened attack, or in consequence of their soon becoming inundated owing to the damming of the stream. Those within the wall

appear to have been occupied for a longer period, during which time the refuse remained where it was deposited in the still water, as is shown by the position of the kitchen-middens in the growth of peat.

From the remains of shaped wood and the large quantity of nails found, it seems certain that the superstructures were of timber. No remains of plaster were found. A few fragments of stone occurred, but they were exceptional, and there is no reason to suppose that they had been used for the buildings. From the marks of fire on some of them they had probably formed hearths.

It is also doubtful if the roofs or floorings were of tile,

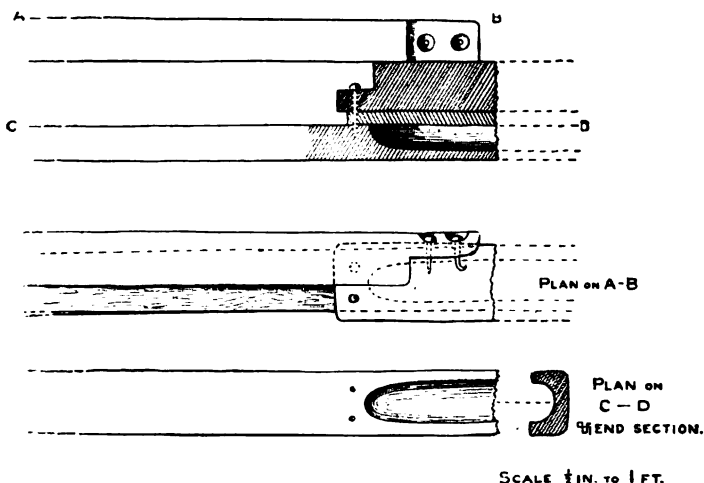
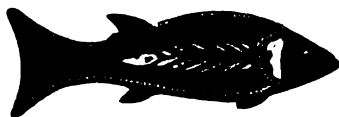


FIG. 10.—WORKED TIMBER FROM STRUCTURE D.

as comparatively few fragments were found and no instance of a perfect specimen occurred. Some of the fragments are of the Roman flanged tile (*tegula*).

Among the shaped wood found on the side of the pit (B in structure D) were some pieces forming the remains of a very curious construction. It was found at the end of some beams which extended through the filling, running laterally with the side of the pit. It consisted of four pieces, one above the other (see fig. 10). The lowest, a beam 8 inches wide, was hollowed with a channel 5 inches wide which ran from the broken end along its length for 10 inches, when it tapered to a rounded end.



1. ENAMELLED FISH-SHAPED FIBULA.

2. PART OF CALIGA.

This was covered with a board $1\frac{1}{2}$ inches thick ; over this came the end of another beam 9 inches wide, in the tenon of which were two large iron nails, which passed through the board and the lower beam, fastening all three together. These had been cut off short in digging the foundations of Finsbury House. The upper beam simply rested on those below ; it had a tenon in which were two countersunk nails, but this probably formed no part of the construction. I am quite unable to offer any explanation of the purpose this may have served.

The relics came mostly from the upper region of the platforms ; they consisted chiefly of fragments of pottery of the recognized Romano-British types, portions of *mortaria*, animal bones mostly broken, oyster shells, *etc.* Red Samian ware was plentiful down to the lowest levels, but generally of the plainer description. This level presented all the usual features of a floor of the ordinary dwelling sites of the Romano-British period. No stone implements and only two flint flakes were found.

There were however, many pieces of vitreous matter and molten glass, also several burnt flints, on some of which were traces of fused material.

These burnt flints are unlike those used for pot-boiling, such as were discovered in the Romano-British villages in Wiltshire.

From these indications it seems probable that some industry was carried on here, but these substances did not occur in sufficient quantities to say this with certainty.

As the earth forming the platforms appeared to be rubbish brought for the purpose, many of the objects may have been gathered up from elsewhere, but on the other hand the fact that the far larger proportion of relics came from the upper portion of the platforms, points to their accumulation owing to the occupation of the site by dwellings. It is, however, difficult to see why such elaborate pains and great labour should have been taken to form a dwelling-place in the centre of a stream when there seems to have been plenty of dry land, at this time, in the locality.

Few of the objects found are remarkable, but they are interesting as affording distinct evidence of the Roman age. The most noteworthy is the fish-shaped enamelled

fibula, which closely resembles one found by General Pitt-Rivers in the Romano-British village at Rotherley.¹ It was found together with an iron *fibula* and a carved bone handle, half-way down the filling of structure C. A lead seal with the letters L V, the lower portion of a bronze seal-case and a bronze ferule were found between the planks of structure A.

Other relics found are an iron flaying knife, a portion of a *calign*, an iron buckle, portions of a knife, staples

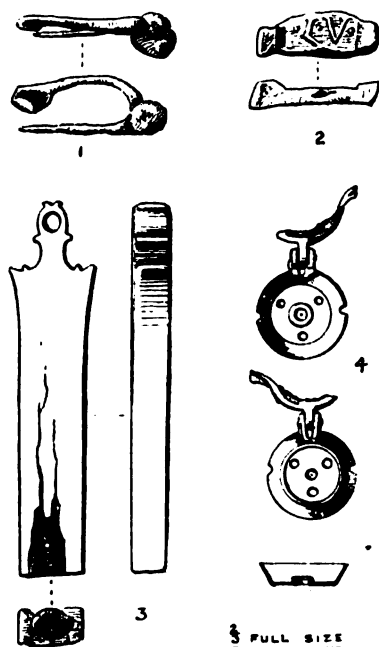


FIG. 11.—OBJECTS FOUND WITH THE PILE STRUCTURES.

and other iron objects. 360 nails were found, one of which is hacked at the sides to prevent its working out of the wood.

There is one object which calls for special remark, and that is the bone implement which is known as “used for pin-making.” Although these implements have been found in great numbers in London, and, so far as I can learn, are not found anywhere else, very little effort seems to

¹ *Cranborne Chase*, II, 118, Pl. XCVII, fig. 8.

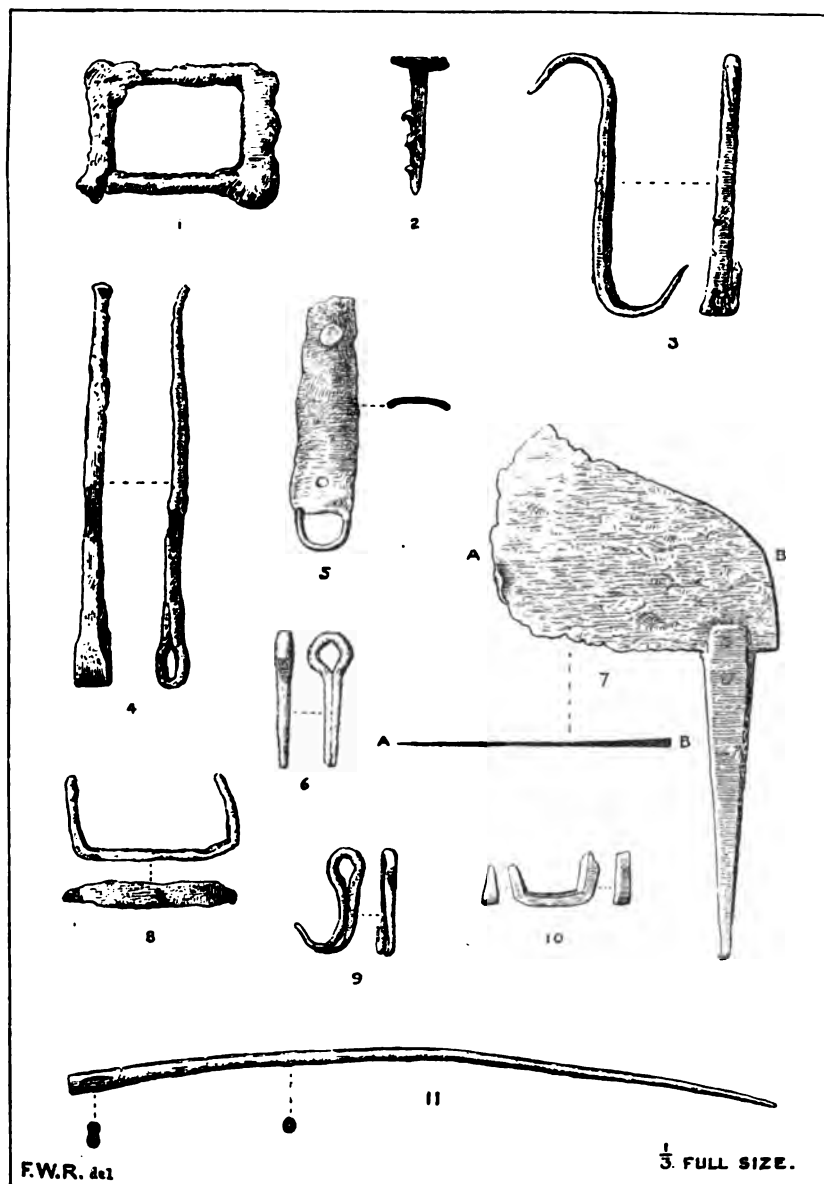


FIG. 12.—IRON OBJECTS FOUND WITH THE PILE STRUCTURES.

have been made to settle the period to which they belong. (Plate III.)

General Pitt-Rivers distinctly refers to them as coming from the Roman level, and rather considers them as earlier owing to their rude construction, but at the same time he classes them with the bone points which are now recognized as mediaeval. Our museums possess large numbers of them, but there does not seem to be one with a properly recorded locality.

The specimen which is here shown (Plate VI, figs. 1, 1*a*) was found by Mr. Kennard in a position which he is confident was well down in the Roman level.

As a good deal of doubt has been expressed on the point, I have endeavoured to get further evidence. During the last few weeks I have obtained three of these implements from Moorfields, the positions of which have been reliably ascertained. Two of these were associated with Tudor objects, the third, from Finsbury Square, was 20 feet deep, and it lay 2 feet down in the gravel, through lying in which it has become iron stained.

As the top of the gravel appears to have been the surface in early Roman times, there seems good reason to believe that this specimen cannot be later than the Roman period, for although it is conceivable that an object of later date might find its way down the soft filling of the river bed or the soil of the swamp, it is difficult to see how this object could have, in this way, got into gravel. As the matter stands it certainly looks as if the use of this implement had survived through a very long period, which is by no means improbable, but it is a point on which further observation is required.

There seems no reason to doubt the use that has been assigned to these objects, as the grooves would serve well to hold a wire, and they all bear file-marks across the facets containing the grooves; some are filed down right into the internal hollow of the bone.

At the present time the working jeweller uses a slab of wood upon which he holds the pins while filing them to a point. The edge of this slab is grooved in a similar manner to the squared portion of these bone objects.

In nearly all instances the projecting processes at the natural end are knocked off, perhaps to allow of their



3

2

1a

1

$\frac{2}{3}$ FULL SIZE

BONE IMPLEMENTS KNOWN AS PIN-FOLISHERS.

being fixed in some manner. The specimen found in the gravel at Finsbury Square has retained these processes, but just above are two indentations which have the appearance of having been formed by pressure such as might be caused by a clamp. (Plate VI, fig. 3.)

A bone implement (Plate VI, fig. 2) which also came from the Roman level appears to be a rough example of the same class of objects. The processes at the end have been cut away, but the working portion has been broken, one face only partly remaining. It is interesting on account of the quite unusual manner in which the grooves have been made, these being V-shaped notches cut apparently with a knife. This, if perfect, might prove to be an early stage of the development of this implement.

Another feature of this portion of the stream is the large number of human skulls that have been found. Three were found by us, and their examination is being kindly undertaken by Dr. Garson. They were right on the bottom of the stream; no other human bones were brought to light.

The Guildhall Museum has twelve human skulls from the recent excavations. General Pitt-Rivers found seventeen, and only three bones. On the site of Old Moorfields Chapel, recently excavated, were six, this making in all thirty-eight, to which must be added, "an immense number" as recorded by Roach-Smith.

General Pitt-Rivers has suggested that they might be the heads of enemies with which the inhabitants of the site had decorated their dwelling-place, a custom said to have been practised by the Gauls.

As nearly all these skulls are recorded as coming from the bottom of the stream, it seems that they were deposited when the stream was active and probably tidal. In river deposits skulls of animals are often found in larger quantities than the bones, the reason for which seems to be that owing to the greater weight of the head it becomes detached, sinks in the mud, and is preserved while the body floats away and is destroyed. This reason might account for the large number of human skulls in the Walbrook, only one would then expect to find many animal skulls also, which, so far as I can find, do not seem to have been very plentiful.

Although no coins were found by us, numerous specimens have been found at different times in all parts of the stream. From the instances already cited, it will be seen that Roach-Smith records them on several occasions. Sir William Tite and General Pitt-Rivers both record coins. J. E. Price gives accounts of many finds, some of which are in large numbers. The Guildhall Museum possesses several specimens. There are also several other minor finds recorded,¹ and some that I have seen in private hands are said to have come from sites occupying the bed of the Walbrook. It is interesting and, I think, significant that, from all these sources, the whole of the course of the ancient stream from Broad Street to the Thames has produced no coin later than Marcus Aurelius.

One of Allectus is recorded by Roach-Smith at the Swan's Nest, but this was in a well dug at the side of the stream. When it is remembered that no distinction has been made in relics coming from the upper and lower parts of the Roman level, which at Moorfields is of a depth of 9 feet and in parts of the city still deeper, a deposit representing the accumulation of the entire Roman occupation, this fact becomes the more striking. It seems, therefore, that these coins mark the period down to which the pile-dwellings were occupied, that the subsequent formation of the swamp rendered the ground it occupied uninhabitable, and consequently no later coins have been dropped.

If the evidence which I have put forward is thought sufficient to warrant my conjectures as to the building of the wall having been the cause of the swamp, then we have here some partial *data* at least for placing the wall at a rather earlier period than has generally been supposed.

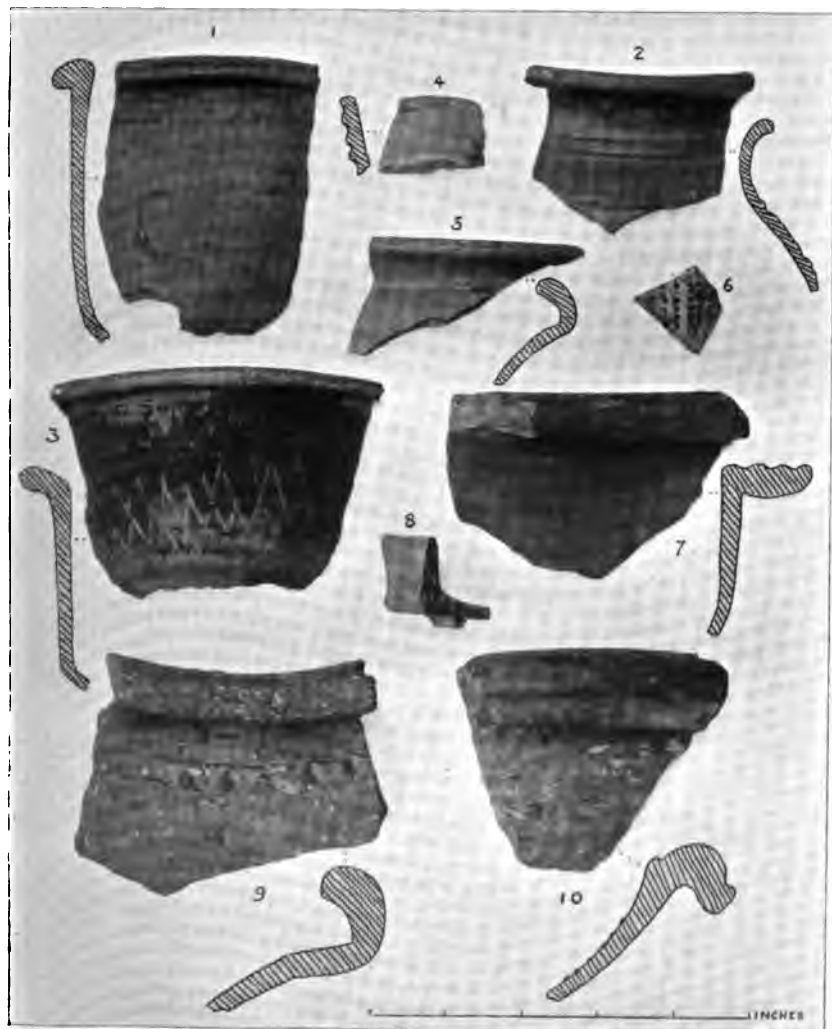
It may also be well to refer to the discovery of the rubbish pit on the site of the Royal Exchange, concerning which Roach-Smith has written² :—

“The coins alluded to are of importance in this discovery, as affording some notion of the period when the pit was covered in and built upon.

¹ Coin of Aurelius discovered in Liverpool St., *Gentleman's Magazine*, 1843, 520. Coins of Domitian and

Trajan found at Dowgate Hill, 1902, *Antiquary*.

² *Illustrations of Roman London*, 13.



CHARACTERISTIC POTTERY FRAGMENTS FROM THE PILE STRUCTURES.

"They are chiefly of Vespasian and Domitian with one of Severus. As none were noticed subsequent to the reign of the last-named emperor, it may be supposed that the ground upon which the building or buildings were erected was on the outside of the city until at least the early part of the third century.

"The coins prove that the pit was not covered over and made level and fit for houses before the time of Severus; but they convey no such decisive testimony on any posterior occurrence; for this coin of Severus may have been in circulation long after the death of that emperor, although the absence of any coins of later princes may support a conjecture that the extension of Londinium thus far towards the north took place before the middle of the third century."

Sir William Tite in his account of the same discovery¹ admits the doubtful evidence of a coin of Gratianus "which was lost and subsequently recovered." He admits that this coin bears "a less particular title" to consideration, but thinks it "probably indicates more exactly the time when the great gravel pit was closed and built upon." If, however, we reject the testimony of this discredited witness, as Roach-Smith appears to have done, we have in this, taken in conjunction with the coins from the bed of the Roman Walbrook, strong presumptive evidence that the wall was not built later than the early part of the third century, and perhaps by the Emperor Severus.

¹ *Cat. of Antiquities*, New Royal Exchange, xlv and 60.

THE MAP OF THE WALBROOK. PLATE VIII.

The course of the early stream is here represented by the blue streak which approximately shows the width of the channel and the direction taken by the stream as indicated by observations of the filling of its bed that have been recorded at various times.

The positions of tessellated pavements marked 9, 11, 12, and 18 show that the sides of the stream had been embanked and built upon during the earlier portion of the Roman period, probably before the end of the second century A.D.

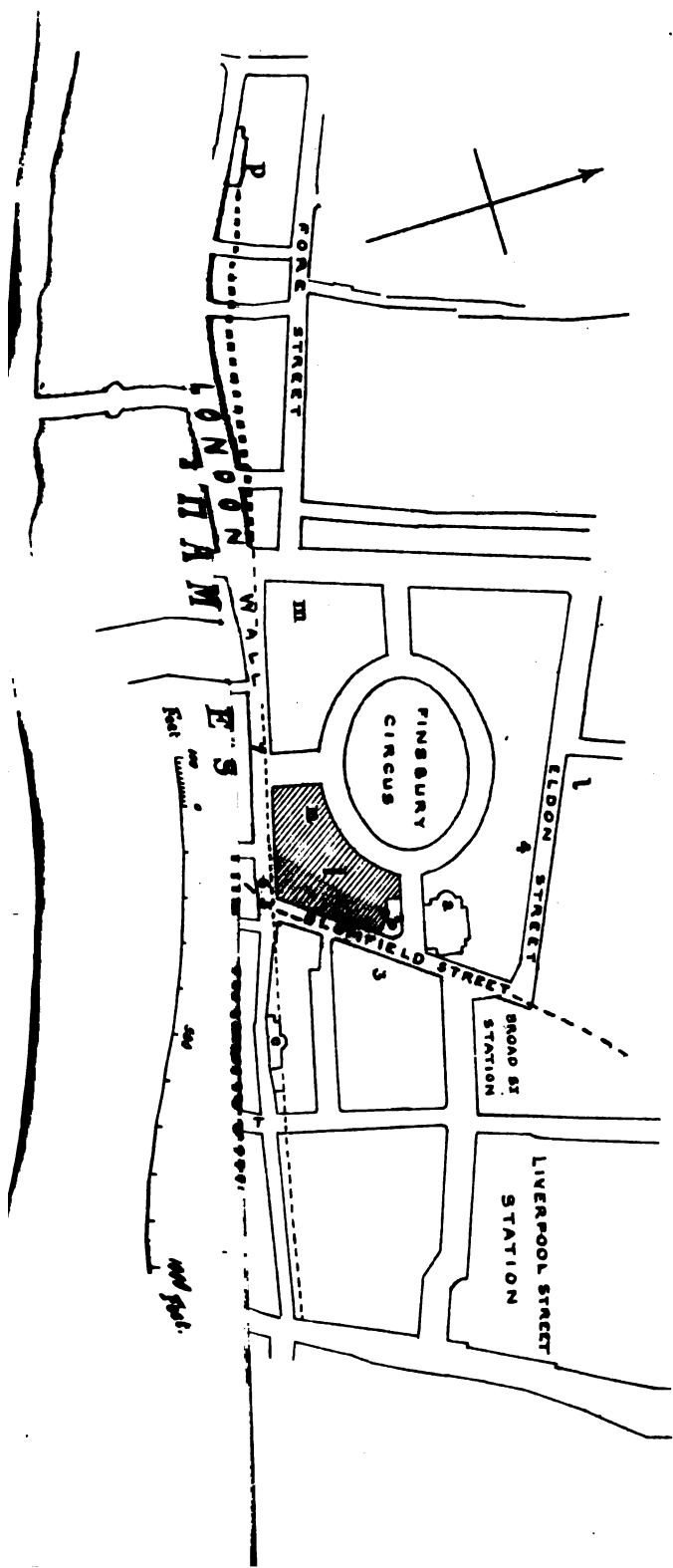
The shaded portion at the south-east of Finsbury Circus (1) marks the site of the recent excavations.

The dotted line running through the length of the blue streak represents the course of the mediaeval stream as described by Stow.

The second dotted line running from the Poultry and terminating at (v) marks the later sewer, which was an open channel as late as 1574, as recorded by Stow (*see* p. 142). It would seem that it was necessary to construct this channel after the covering over of the mediaeval stream, to carry off the flood water, which must have been very excessive on the steep ground south of the Poultry. This later channel extended down Walbrook Street and Dowgate Hill, emptying itself at Dowgate Dock. Finally this also became a covered sewer.

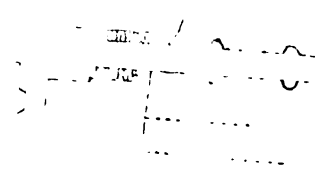
REFERENCES TO MAP.

- | | |
|---|---|
| 1. Site of recent discoveries. | a. Site of old Moorfields Chapel. |
| 2. Site of Gen. Pitt-Rivers's discoveries. | b. Finsbury House. |
| 3. Discoveries recorded by Roach-Smith. | c. Church of All Hallows and portion of wall. |
| 4. Urns recorded by Roach-Smith. | d. Church of the Austin Friars. |
| 5. Culvert recorded by Sir W. Tite. | e. Church of St. Margaret, Lothbury. |
| 6. Culvert and little Moorgate postern. | f. Church of St. Mildred, Poultry. |
| 7. Urns found along line of Roman wall. | g. Site of old St. Stephen's and Horse-shoe bridge. |
| 8. Well and Roman remains at Swan's Nest. | h. The Mansion House. |
| 9. Roman pavement, 1805, depth 11-12 feet, now in Brit. Mus., <i>Roman London</i> , 57; <i>Archaeologia</i> , xxxix, 491. | i. St. John on Wallbrook. |
| 10. Remains recorded by Roach-Smith. | j. St. Michael Paternoster. |
| 11. Roman pavement, 1867, <i>Trans. London and Middlesex Arch. Soc.</i> , ix. | k. Tokenhouse Yard. |
| 12. Roman pavement, Bucklersbury, J. E. Price. | l. Site of section 3 (<i>see</i> Fig. 2). |
| 13. Roman well. | m. Site of section 4 (<i>see</i> Fig. 2). |
| 14. Roman walls. | n. Site of section 5 (<i>see</i> Fig. 2). |
| 15. Bed of Walbrook observed by Sir W. Tite. | o. New St. Stephen's. |
| 16. Remains of Roman buildings observed by Roach-Smith. | p. Fragment of City Wall. |
| 17. Roman remains observed by J. E. Price. | q. Chandlers' Hall. |
| 18. Pavement, Founder's Court, 1835, depth 11-12 feet. | r. Skinners' Hall. |
| 19. Roman remains, National Safe Deposit, J. E. Price. | s. Dyers' Hall. |
| 20. Roman pavement, depth 20 feet. Maitland, 1756, I, 17. | t. Inn Holders' Hall. |
| | u. Outfall of mediaeval stream. |
| | v. Outfall of later sewer. |





THE WALBROOK



Proceedings at Meetings of the Royal Archaeological
Institute.

April 1st.

Sir HENRY H. HOWORTH, *President*, in the Chair.

Mr. PHILIP NORMAN exhibited a wooden tally, lent by Mr. G. H. Wallis, of the Nottingham Castle Museum. It was of considerable interest from its inscription, as follows :—

*De Francisco Perira per ipsum regem mutuatum pro annuitate iii
librarum per centum solubili ex le Sinking Fund anno ximo regis
magnae Britanniae, Georgii secundi concessa.*

*(Termino) Sancti Michaelis xxv die Octobris anno regni regis Georgii
secundi ximo.*

The notches on the tally appeared to represent a sum of £500 borrowed by Government from Francis or Francisco Perira, who was probably a Jew from Spain or Portugal.

Mr. C. J. PRAETORIUS exhibited a stone-ware jug, mounted in silver gilt, of Elizabethan date, and a silver porringer with cover of 1683, the property of Lady Reade, of Carreglwyd, and made the following remarks on them.

Mottled stone-ware jars and jugs, with silver neck mounts and foot bands, were made during the greater part of the sixteenth century; according to Mr. Cripps, the earliest notices of them occur about 1530 to 1540, and from that time to the end of the century they were common enough, but they seem to have gone out of fashion, for it would be difficult to find a single specimen with a seventeenth century hall mark.

The specimen before you bears the date of 1592 engraved upon the handle, but according to the hall marks on the lid and foot it must have been stamped in 1590 and made in Exeter by a silversmith named Eston.

Two stone-ware jugs, formerly in the Stainforth collection, have respectively "Eston" and "Easton" as their maker's marks; these are accompanied by the usual Exeter mark. Eston is found on a communion cup at St. Andrew's, Plymouth, of which the date is 1590.

There can be little doubt that this jug belongs to the same date as the former objects.

These mottled stone-ware jugs were imported from Germany, probably from Cologne, and were mounted and decorated by English silversmiths. The mounting of this jug is richly decorated with *repoussé* work, consisting of masks, lion's heads, and fruit; the lid is surmounted by a button on which is seated a lion.

There are many examples of mounted jugs of this period existing; they mark an epoch in the silversmith's art, as examples of excellent craftsmanship and taste; the mottled stone-ware forms a very agreeable combination of colour and surface with the mount.

The porringer appears to have been made in the year 1683-4. The knob of the cover is formed by eight acanthus leaves, a type of ornament much in vogue from 1675 to 1685. The design engraved on the cover and cup is of another style and suggests Chinese origin; decoration of this kind was fashionable for a few years, and ceased about the year 1690.

A toilet box from a service of the year 1682 has a good specimen of engraving in the Chinese style; the birds and floral ornament on the sides of this box are similar to the patterns on the porringer; the two men's figures on this cup are poorly done, and lack the flourish of the birds and leaves.

The PRESIDENT exhibited photographs of the twelfth century *tympana* at Bedwardine, and Mr. C. E. KEYSER a photograph of a curious roughly carved stone, apparently the head of a small window, from Ulgham, Northumberland.

Mr. R. GARRAWAY RICE exhibited four eighteenth century scratch-backs, and also exhibited and read a description of an illuminated pedigree of the Ferrers family, made in 1612, and presented to the Worshipful Company of Farriers in that year. The pedigree was made by Robert Glover, Clerk of the Company, and freely given by him on October 8th, 1612. The original pedigree, although in the possession of the Company as late as 1827, is now lost. In that year it was engraved by W. S. Jenkins at the expense of the Company. The copper plate is also now lost. Three copies of the engraving are known to be extant, *viz.* one in the possession of the Company, another owned by Earl Ferrers (it having been presented to his predecessor in 1830), and the one in the possession of Mr. Rice. All of these have been illuminated. The pedigree consists of an elaborate genealogical tree tracing the Earldom of Ferrers from "Henrie de Ferrars or Ferrer, a Norman, whose came over with William the Conqueror, who gave to hym the honor of Tutbury in the countie of Stafforde" to "Robert, Earl of Essex and Ewe, Viscount Hereford and Bouchier, Lord Ferrer of Chartley, Bouchier, and Lovayne, who is now lyving [1612] and keeps an honorable house in Staffordshire." There are also numerous shields of arms. In fifty lines of laudatory poetry in praise of the Farriers Company, Robert Glover attempts to show the connexion between the "de Ferrers" family and his Company. Representations of nine instruments used in the art of farriery are worked into and form part of the decorative border. These form, perhaps, a unique series as showing the instruments in use early in the seventeenth century. They are upwards of seventy years earlier in date than those figured by Randle Holme in his *Academy of Armory and Blazon*, printed in 1688. It would seem that there was thought to be some connexion between the Earldom of Ferrers and the Farriers' Company, even as late as 1830, for in that year the then Earl Ferrers, in a letter to the Master, expressed his intention "to send a present to the court of half a doe every year." It was in acknowledgment of this that the Company presented to the Earl a copy of the engraving of the pedigree. Captain Ferrers and Mr. C. J. Praetorius added a few remarks on the paper.

Mr. C. E. KEYSER read a paper on Swalcliffe Church, Oxfordshire, and exhibited a series of photographs. The church is a fine building of considerable interest, having developed from a small

early aisleless nave and chancel, two windows of which remain in part in the spandrels of the nave arcades.

Messrs. PEERS, HOWORTH, and the PRESIDENT took part in the subsequent discussion.

May 6th.

Sir HENRY H. HOWORTH, *President*, in the Chair.

Mr. R. E. GOOLDEN exhibited a bronze spear-head, of the rapier type, found in the Thames at Taplow, having the rare feature of gold studs at the base of the blade, and gave a description as follows:—

At the tail of Taplow Mills just below the Taplow barrow which stands at the end of the south spur of the Chilterns is an eyot or island in the Thames; a shallow backwater runs on its north-east side which is subjected to dredging operations from time to time, and during the last few years several bronze spear-heads of the ordinary type have been recovered, some of which are now in the National Collection. A few weeks ago a remarkable specimen, in more than one respect unusual, was found at the same spot and brought to me by the dredgers. I was thus fortunately able to negotiate for its acquisition on behalf of the British Museum, where it now remains. It now measures 17½ inches in length, but the socket, which retains remains of the wooden shaft, is broken, so that one can only conjecture that the blade occupied about two-thirds of the entire length, and on this basis the whole would be between 23 and 24 inches long. In form it somewhat resembles an Irish example illustrated in Sir John Evans' *Bronze Implements*, fig. 400, but the loops join the base of the blade and are not separated by a space of half an inch as in the Irish specimen. The tapering socket is prolonged right to the point and has a decided ridge, while both edges are bevelled, and a row of dots separates the blade from the socket on either face. The base of the blade, which also has rows of dots near the edge, is further ornamented with two conical gold studs on each face, and this feature, combined with its excellent workmanship, renders the spear-head of exceptional interest and value.

The closest parallel for the gold studs is to be seen in the National Collection on a stone bracer or bowman's wrist-guard found in a barrow at Driffield, East Riding, Yorkshire.

I am indebted to Mr. C. H. Read, of the British Museum, for permission to exhibit this unique specimen at a meeting of the Royal Archaeological Institute of Great Britain and Ireland, previous to its becoming the property of the Museum, and I should add that I have fully availed myself of a careful descriptive note kindly furnished me by Mr. Reginald A. Smith of the Museum in the above communication.

Mr. E. TOWRY WHYTE exhibited a parchment certificate of visit to the Holy Sepulchre, dated 1688, and made the following remarks on it:

The certificate which I have the honour to exhibit to-day is the property of Mr. Beaufoy, of Coombe House, Wiltshire, but I regret that he is unable to say how it came into the possession of his family;

P

he found it with several other parchments when looking over his collection of engravings, which for many years had been put away in boxes. The other parchments alluded to were of no special interest, most of them being eighteenth century attestations of obedience by nuns of different orders, mostly Italian, all in more or less badly illuminated borders; some had been reused, as in one case a second piece of parchment had been pasted over the central part with a different name on it; there were also one or two commissions to officers in the army, also Italian, but I do not remember which particular Italian states they belonged to. Whilst looking them over with Mr. Beaufoy he drew my attention to the certificate now before you, and I at once thought it was an unusual document, especially so on account of its late date, namely 1688. It is an attestation that a certain merchant of London, named Frederick Deuinck, had visited the Holy Sepulchre at Jerusalem, and is dated from the monastery of St. Catharine at Bethlehem, and is signed by Brother Donatus a *Mediolano*, *praedicator*, etc., and has the seal of the monastery affixed by order of Brother John Joseph a *Bononia*, the secretary. The seal is vesica-shaped and bears round the edge this inscription, "*Sigillum guardiani Sacri Conventus Montis Sion*," within which in the upper half is our Lord in glory with the twelve apostles in adoration, then a blank space, and in the lower half is our Lord kneeling down and washing St. Peter's foot, which is in a vase or basin. St. Peter is seated on a stool with one hand raised in remonstrance, the other apostles are seen in the background. Formerly a printed slip of paper was pinned on to the bottom end of the parchment, but only a portion now remains; it seems to have been "Certificate of a Person (having visited the) Holy Sepulchre"; the words in brackets are conjectural. I have not been able to find out anything about Frederick Deuinck, unfortunately no information is given as to what his trade was, which would have given a clue where to search, but judging by his name he was a Fleming, and in all probability a Roman Catholic, but that is only conjecture. Undoubtedly these certificates are not at all common, probably for two reasons, first, that but few went so far as the Holy Land in those days, and secondly, that on the death of the person to whom the document referred, it was considered of no further value and therefore destroyed. The size of the parchment is 1 ft. 2½ ins. by 9 ins. with the corners cut off at the bottom; it has been folded so as to make a small packet, 4½ ins. by 3½ ins. The writing is now rather difficult to read in places, but there is nothing in it that calls for special attention. I may add that U's and V's are alike.

The text of the document is as follows:—

"Frater Donatus a Mediolano ordinis minorum sancti patris nostri Francisci, praedicator, lector generalis et exdefinitor provinciae reformatae Mediolani, Sacri Montis Sion, necnon serenissimi domini nostri Jesu Christi sepulchri, totiusque terrae sanctae cum plenitudine potestatis in capite praeses et servus, uniuersis et singulis praesentes nostras inspecturis lecturis pariter et audituris salutem et apostolicam benedictionem in domino sempiternam.

"Notum facimus, et attestamur Per Illustrem dominum Federicum Deuinck de Londino in Anglia Mercatorem ad Sanctam hanc Hierosolymorum urbem peruenisse necnon gloriosissimum domini nostri Jesu Christi sepulchrum, sanctissimos autem Montes, Caluarie

scilicet, ubi Saluator Noster propria nos, cruci appensus, morte redemit; Oliueti, unde in celum mirabiliter conscendit ad Patrem; Sion, augustissimi institutione eucharistiae sacramenti, Paraclyti missione spiritus, aliisque per-multis Ecclesie, ac Synagoge mysteriis insignem; Thabor situs natura et gloriosa Transfiguratione Patrum testimonio precelsum; et Beatitudinum, admirabili de ejusdem Domini sermone decorum; sanctissimum preterea natiuitatis Dominice Presepe in Bethlehem Jude ciuitate Daud; sacram item Nazareth domum Angelica Annunciatione, eternique Verbi Incarnatione celeberrimum: uallem insuper Josaphat Dominice Passionis refertam angoribus, ac uenerabili Deipare inde in celum Assumptæ exornatam Monumento: Bethaniam quoque, et hospitio Domini, et Lazari suscitatione insignem, sed et Montana Judee sanctissimæ Dei Genitricis uisitacione, ac Precursoris natiuitate, eiusque nobilitata deserto: Thiberiadis Mare, quorundam apostolorum uocatione, Petrique in Ecclesie caput electione clarum: Ad demum cetera sancta, piaque loca, que tam in Judea, quam in Galilea a Fratribus Nostriis Fidelibusque peregrinis uisitari solent, humiliter et deuote uisitasse. In quorum omnium et singulorum fidem presentes has manu nostra subscriptas, ac maiori officii nostri sigillo munitas ac roboratas expediri mandauimus. Datis Bethlehem in nostro Sanctæ Catharinæ conuentu die decima septima mensis Decembris Anno ab incarnatione dominica millesimo sexcentesimo octogesimo octauo.

“ fr. Donatus a Mediolano preses
Terre Sancte

[Seal.]

“ De mandato paternitatis
sue admodum reverende
fr. Joannes Joseph a
Bononia secretarius terre
sanctæ.”

Mr. H. R. H. SOUTHAM exhibited a miniature silver cup, probably English work of the late seventeenth century.

Professor W. BOYD DAWKINS communicated to the Institute that he had recently examined the engraved oyster shells from the disputed “crannog” at Dumbuck, now in the Edinburgh Museum, and had satisfied himself that two of the shells were American blue points, and consequently of very modern date.

The Professor then read a paper on pre-Roman and Roman roads in south-eastern England.

He described how the roads were for the most part confined to the higher ridges in pre-Roman times owing to the lower country being for the most part occupied by dense forest and morass, visited only in Neolithic and Bronze ages by the hunter, and in the prehistoric Iron age by the miners of iron. Under these conditions the population in prehistoric times was mainly centred in the North and South Downs, in which camps and *tumuli* abound, and in which tracks connecting one settlement with another, along lines of least resistance—sometimes on the crest of ridges and sometimes in the dry chalk valleys—give the beginning of the system of roads in this district. Professor Dawkins then traced the roads from Canterbury as the most important settlement in the district of the North Downs of clearly ascertained pre-

historic Iron age. When the Romans conquered this part of the country, they found the existing roads so well adapted to their purpose that the only straight road which they found it necessary to make in this district was the Stane Street.

Mr. TALFOURD ELY contributed a paper on "A Roman Lighthouse." He prefaced his remarks by quoting evidence, both literary and from coins, to show that lighthouses existed in Roman times. He also described the Roman Pharos at Dover and at other places on the English coast. The Tower of Garreg, near Holywell, in North Wales, which is described by Pennant in his *History of the parishes of Whiteford and Holywell*, has been further investigated by Mr. Ely, and to prove that this is also a Roman Pharos he devoted the remainder of his paper, which will be printed in the *Journal*.

Messrs. BELL, PEERS, GARRAWAY RICE, BAYLIS, and WILSON, and the PRESIDENT took part in the various discussions.

June 4th.

Mr. E. W. BRABROOK, C.B., in the Chair.

Miss E. L. BRUCE-CLARK exhibited a small bronze figure lately found at Eastbourne in digging for the foundations of a house.

Professor T. M'KENNY HUGHES read a paper on "Buried Cities," with special reference to Herculaneum. He described some of the ordinary processes of nature by which forests, dwellings, and cities were buried, pointing out that slight changes in geographical conditions often resulted in what might be called local cataclysms or catastrophes. For instance, the sudden shifting of sand dunes sometimes buried houses and villages which had long been considered out of their line of encroachment. He explained how the eddying wind sometimes formed mounds and hollows which were always moving within certain limits, and that heavy objects dropped on the surface at very different periods were thus by gravitation carried down to the bottom to be again covered and uncovered by the swirl of the wind; such processes causing much question as to the age of deposits, in which sometimes recent coins and flint implements were found together, as in the Culbin Sands, near Nairn. He looked forward to the time when the manor house which had been covered for two centuries under one of these mounds, would in some exceptional storm of dry wind be again exposed. He then passed on to the consideration of cases in which towns had been buried under volcanic *ejectamenta*, referring especially to Herculaneum. It had often been supposed that Pompeii had been buried under ash and Herculaneum under lava, but he explained the nature of the *lava d'acqua* which had overwhelmed Herculaneum, referring it not to lava nor to any flow of hot mud from the volcano nor to any outburst of water during the eruption, but to a heavy rainfall washing down the unconsolidated ash, which then set into a sort of Roman cement. He referred to the geographical conditions of the district as described in ancient history and as now seen. Two valleys ran down either side of the promontory on which the city was built. In these the rainwash was collected, filling up all hollows and choking the principal harbour so that it was impossible to approach the shore. But, he contended, outside the line of flow the ash was only wetted on the surface or to a small depth, and he urged that if careful researches

were carried out and borings made, parts of Herculaneum would be found covered only with a dry ash easily removed, and probably monuments of great interest might be unearthed; perhaps, he added, another library of more value, he hoped, than that already found.

Mr. J. H. ROUND then read a paper on "The King's Pantler," in which he traced the functions of the *panetarius*, as head of the pantry in the King's household, and their discharge at coronation feasts by the Beauchamps, Earls of Warwick, as great pantlers. He showed that the office in England had never been so important as that of the *grand pannetier de France*, and that though at coronations the butler and the pantler had served together as great officers, the latter had ceased to officiate since the days of Elizabeth.

In the discussions following the above papers the CHAIRMAN, Judge BAYLIS, and Mr. LINDSAY took part.

A List of the principal Works published under the superintendence and sanction of the Council of the Royal Archaeological Institute.

THE ARCHAEOLOGICAL JOURNAL, published under the direction of the Council of the Archaeological Institute. Vols. I. to V. 8vo. 2l., cloth boards; Messrs. PARKER, Oxford and London.

Vols. VI. to XXV. (inclusive) may be obtained at the Office of the Institute, or through any Bookseller, price (*in parts*) 12s. 6d. a volume; price to Members, 4l. for the series in question (*in parts*), or at the rate of 4s. a volume, in portions of not less than five volumes. Later volumes, 7s. 6d. a part, or 1l. 10s. a volume; price to Members, 2s. 6d. a part or 10s. a volume; last three volumes published, price to Members, 5s. 6d. a part or 15s. 6d. a volume.

The General Index to the first 25 volumes of the ARCHAEOLOGICAL JOURNAL. Price 1l. 1s.; to Members, 10s. 6d.

THE WINCHESTER VOLUME: Memoirs communicated at the Meeting in 1845 (*out of print*).

THE YORK VOLUME: Memoirs communicated at the Meeting in 1846. Price 1l. 1s.; to Members, 15s.; very few copies remain.

THE NORWICH VOLUME: Memoirs communicated at the Meeting in 1847. Price 10s.; to Members, 5s.

THE LINCOLN VOLUME: Memoirs communicated at the Meeting in 1848. Price 10s.; to Members, 5s.

THE SALISBURY VOLUME: Memoirs communicated at the Meeting in 1849 (*out of print*).

THE OXFORD VOLUME: Memoirs communicated at the Meeting in 1850 (*out of print*).

THE BRISTOL VOLUME: Memoirs communicated at the Meeting in 1851 (*out of print*).

THE NEWCASTLE VOLUME: Memoirs communicated at the Meeting in 1852 (*out of print*).

THE CHICHESTER VOLUME: Report of the Proceedings of the Institute at the Chichester Meeting in 1853, with catalogue of the Museum (*out of print*).

Catalogue of the Museum of Antiquities and Works of Art formed at the York Meeting in 1846. 8vo. (*out of print*).

Catalogue of the Museum of Antiquities and Works of Art formed at the Edinburgh Meeting in 1856 (*out of print*).

MAP AND MEMOIR OF THE WATLING STREET, the Roman way across Durham and Northumberland, with plans of Stations and Camps; from a Survey made, by direction of the Duke of Northumberland, by Mr. MACLAUCHLAN, on the occasion of the Meeting of the Institute at Newcastle, 1852. Folio. Price 12s. 6d.; to Members, 9s. 6d. (*out of print*).

The Survey of the Watling Street may be obtained by Members with the SURVEY OF THE ROMAN WALL, made by direction of the Duke of Northumberland, by Mr. MACLAUCHLAN. Price of the Surveys, in cloth, folio, with two Memoirs, 8vo., 4l. 4s. (*not published*); very few copies remain.

MAP OF BRITISH AND ROMAN YORKSHIRE: Compiled by Sir C. NEWTON, K.C.B., M.A. Price 10s.; to Members, 5s. (*out of print*).

TABLE OF THE ANNUAL ASSAY OFFICE LETTERS: by Mr. OCTAVIUS MORGAN, F.R.S., F.S.A. (*out of print*).

LIST OF MEMBERS OF THE CLOCKMAKERS' COMPANY OF LONDON, from their incorporation in 1631 to the year 1732: by Mr. OCTAVIUS MORGAN, F.R.S., F.S.A. Price 2s. 6d.; to Members, 1s.

MEMOIR ON SCULPTURES IN LINCOLN CATHEDRAL: by Professor COCKERELL, R.A. (*out of print*).

MEMOIR ON LICHFIELD CATHEDRAL: by Professor WILLIS, F.R.S. (*out of print*).

ARCHITECTURAL HISTORY OF WORCESTER CATHEDRAL AND OF THE MONASTIC BUILDINGS: by Professor WILLIS, with Plans and Sections (*out of print*).

ON THE ORIGINAL PORTRAIT OF MICHAEL ANGELO, "Il Cavaliere Aretino": by Mr. C. D. E. PORTNUM, F.S.A. (*out of print*).

ARCHITECTURAL HISTORY OF CHICHESTER CATHEDRAL: by Professor WILLIS, F.R.S. (a discourse delivered at the Meeting of the Institute, in 1853), with an Essay on the Fall of the Spire; also Boxgrove Priory, by Rev. J. L. Petit, and Shoreham Church, by Mr. E. Sharpe, being Memoirs read at the Meeting (*out of print*).

OLD LONDON: being a selection from papers read at the London Meeting in 1866. Published by JOHN MURRAY, Albemarle Street. Price 12s.

ANCIENT HELMETS AND EXAMPLES OF MAIL: ILLUSTRATED CATALOGUE: by the BARON DE COSSON, F.R.G.S., and Mr. W. BURGESS, A.R.A. (*out of print*).

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Any Member wishing to withdraw must signify his intention *in writing* previously to January 1 of the ensuing year, otherwise he will be considered liable to pay his subscription for that year.

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The first Meeting of the Session 1902-1903 was held on the first Wednesday in Nov. 1902; and such Meetings will be held at 26 Hanover Square, on the first Wednesday of the month (January excepted), November to July inclusive. The proceedings commence at 4 p.m. Any Member is at liberty to introduce a friend.

A desire has been expressed, by persons who have recently joined the Institute, to obtain the earlier volumes of the *ARCHAEOLOGICAL JOURNAL*, in order to become possessed of the complete series. The first five volumes, published by Messrs. Parker, London and Oxford, 1844-1848, may be procured through any bookseller. MEMBERS have special facilities in regard to the purchase of the subsequent volumes, VI. to LVIII. inclusive; also in regard to the Transactions at the Annual Meetings, and other publications of the Institute.

(See list of Publications, page 3 of this wrapper.)

The general Index to the first twenty-five volumes of the *Journal*, brought into shape by the late Mr. Burt, and completed by Sir John Maclean, may be obtained from the Secretary, price 10s. 6d.

Cloth cases for binding the *Journal* may be obtained at the office of the Institute, price 1s. each.

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Royal Archaeological Institute, 20 Hanover Square, London, W.

REMARKS ON THE PRIMITIVE SITE OF LONDON.

By F. W. READER.

Without venturing upon the obscure question of primitive Roman London, which by different authorities has been variously placed either to the east or to the west of the Walbrook, we have perhaps sufficient data for concluding that *Londinium*, whatever may have been its original boundaries, had by the second century already extended not only as far as the limits of its ultimate circumvallation, but even beyond it on the northern side.

It has been stated by A. T. Kempe¹ that we may fairly conclude that London in the time of the Emperor Claudius, that is, in the first century of Christ, had spread itself out (probably as an open town, consisting chiefly of insulated buildings pleasantly situated on a rising green bank) from Tower Hill to St. Paul's.

The growth of the city therefore would seem to have been very rapid in the early days of the Roman occupation, and this quite disposes of the argument that the great extent of the area enclosed points to a late date in the erection of the wall.

From the great scarcity of earlier relics actually found in the soil underlying London, it seems almost certain that no settlement of importance existed on the site in pre-Roman times. Many earlier objects have been procured from the bed of the Thames, and remains of earlier settlements have been discovered beyond London, but it is difficult to conceive that if any considerable British town preceded *Londinium*, all traces of it in the shape of pottery fragments, etc. should, by reason of subsequent occupation, have been so entirely obliterated, while, as some would have us believe, the place-names have survived.

The so-called Late Celtic pottery can hardly be considered to point to an earlier period than the Romano-

¹ *Archæologia*, XXIV. 193.

British. These shapes are so often found in association with distinctly Roman objects that, in such cases, they seem rather to indicate the survival of an earlier culture.

The opinion generally held, that London first sprang up as a fort defending the passage of the Thames on the trade route to the north, seems reasonable, and to be supported by what evidence has come to light. There is also evidence that in the time of the first Empire the passage of the Thames, either by a *trajectus* or bridge, was situated in about the same position as that occupied by the bridge of later times.¹

The first colony therefore might naturally be expected to have grown up at this point on the east bank of the Walbrook. But however probable this may be, it cannot be regarded as more than a surmise resting on very slender evidence. It is rather necessary to lay stress on this, as recent writers of popular books on this subject are apt to confidently assert that the earlier London occupied this site as a fact that has been proved beyond doubt.

So far as is warranted by the evidence, both banks of the Walbrook seem to have been thickly inhabited at an early period in the history of the city, and this stream, it will be seen, formed the centre of the later *Londinium*. If, as has been presumed, the city commenced its existence on the line of the northern highway, it must have soon shifted considerably to the west.

This westward movement would no doubt have been largely influenced by the proximity of the stream of the Walbrook. The importance of such a stream to the rising colony can scarcely be over-estimated, and it is easy to see that the inhabitants would not have been slow to avail themselves of the advantages of occupying its banks. Even in the Middle Ages, when its dimensions had shrunk to that of a mere brook, it played an important part in the industries and drainage of the city, as is seen by the city records; but in its earlier and more vigorous days it must have been of vastly greater importance, so as to lead the inhabitants not only to cluster on its banks, but also to occupy the bed of the stream for a distance extending to nearly three-

¹ *Archæologia*, XXV. 600; and XXIX. 147.

quarters of a mile northwards from the Thames. In fact, the settlement may have extended even further, remains having been found as far as Broad Street Station, but more may yet remain under the ground occupied by the rails of the North London and Great Eastern Railways.

Many errors and illusive conjectures have been made by various writers who have attempted to locate the position of the embryonic *Londinium*, through their having failed to recognise the importance of this stream and the nature of the conditions that were then existing. The one man who had a clear understanding of this was Sir William Tite. His views, however, never seem to have met with the recognition they deserved, owing probably to the conclusions having been arrived at from observations made of excavations in the soil. This method of inquiry was not in favour in his time, and the bulk of opinion not being in agreement with his views, the importance of his remarks appears to have been disregarded and overlooked. Subsequent excavations show, however, that Sir William Tite's deductions were correct, and this serves to illustrate how much more reliable is the evidence contained in the soil when properly observed, than that produced by scholars struggling with etymology and the writings of the ancients.

It may be of interest just to notice the opinions of some of those who have attempted to solve the question of the original site of Roman London. Arthur Taylor, in a learned paper, proposes to show that its position was to the east of the Walbrook, with Cannon Street as the principal west to east highway, having smaller north and south streets running from it. In speaking of the Walbrook, he says:

There is reason to believe that the channel of the Walbrook in this part of its course was a deep gulley or ravine, scoured with considerable force by floods from the undrained moors above [*sic*]. The notoriety of this little river in early times is sufficiently manifested by the fact that the wards of the city were long divided into two classes, those east and those west of the Walbrook. A thousand years before, struggling through bog and morass, it would have afforded no slight impediment to a hostile movement, no little security to a station on the dry plain above.

The writer supposes the settlement to have been quadrilateral, and surrounded by an earthen *vallum*, the

stream forming a natural fosse on the west, and from this bank or wall he derives the name of Wall-brook. He goes on to say¹:

Along the northern side of the station, whose extremities we have now explored, was a tract of comparatively high ground, the ridge of Cornhill, backed by an extensive fen or morass, Finsbury or Moorfields.

In all probability the Langbourne was carried directly west, passing under the present Mansion House, the foundations of which, though not in the channel of the Walbrook, are known to have been laid upon piles and planking, a sufficient proof of the condition of the soil.

From these extracts it will be seen that there is confusion of early and late conditions. In a further communication² he admits that the great width of the channel of the stream, which he describes as "the sedgy confines of the Walbrook," was unknown to him when he first wrote, and that he was not then aware that it had been ascertained to have been 248 feet wide in the neighbourhood of Tower Royal and Little St. Thomas Apostle, evidently referring to the record of Sir William Tite, but he does not seem to have learnt also that at that time "the surrounding land was dry and substantial," which he refers to as the "Finsbury pools."

Whatever may be thought of his explanation of the mythical Langbourne representing the ditch of the northern boundary of this early site, and which he makes to run under the Mansion House and into the Walbrook, the statement that the Mansion House was not in the bed of the stream is certainly incorrect. Here again the writer evidently had the mediaeval stream in his mind. The fantastic Dr. Stukeley could not, perhaps, have been expected to recognize the cause of the conditions found in digging the foundations of the Mansion House, and which he accounted for by supposing a ditch to have existed there.³

The discoveries then made are quite consistent with those that have been observed throughout the course of the Walbrook, and there is no doubt that the greater part at least of the ground occupied by the Mansion House forms a part of the bed of the ancient stream.

¹ *Archaeologia*, XXXIII. 101.

² *Ibid.* 112.

³ *Itinerarium Curiosum*, "The Brill," 12.

The Walbrook is shown as an important stream in the map which accompanies a paper by William Henry Black,¹ in which he endeavours to show that the original site of London must have been between that stream and the Fleet.

The principal reason advanced in favour of this site is the strength of the position of the ground naturally protected on three sides by rivers. This theory would of course demand that the Walbrook should be a considerable stream, though nothing that the writer says goes to show that this view had been arrived at by anything except conjecture and the exigencies of the argument. In speaking of the district north of the city he says:

Our author Pennant is clearly wrong in describing that as part of the forest which for ages afterwards was a moor and meadows, the overflow of whose watercourses supplied the Walbrook, and he might have recollected the words of John Stowe of this Moorfield, etc.

He, however, remarks that

the stream was large enough to form a little harbour at its mouth, namely, at Dowgate.

On the unsatisfactory evidence of place-names, Thomas Lewin² claims to have discovered the site of an aboriginal British city, which he proposes to place "upon the hill which lay between the river Flete on the west and Walbrook on the east."

With regard to the Roman city, he says that the extension of the city westward was difficult, owing to the Fleet valley,

but on the east side was the small and comparatively insignificant stream of Walbrook, running along a shallow valley, and easily spanned by bridges. It was in this quarter that the Roman merchants first began to erect their villas.

Here again no observed facts are given by which we may understand the description of the "shallow valley" of the Walbrook, which is stated by A. Taylor to have been a "deep gully or ravine." Such terms, in the absence of more precise details, may mean very little, and might be used according to the view which the author wished to advance. We have, however, means of computing fairly precisely what was the depth of the channel. It has been shown above that the stream in

¹ *Archæologia*, XL. 41.

² *Ibid.* XL. 50.

the district of Moorfields had slight banks only discernible in places where they were three or four feet high, but on reaching the city it had to cut its way through the high ridge of ground skirting the Thames.

The original surface was found at Lombard Street, at a depth of 16 feet,¹ and the filling of the bed of the stream at this part extends to 30 feet, which gives a fall of 14 feet. As the soil forming the banks was of gravel, and subjected to the action of the tides, its sides would shelve gradually, as appears from the excavations in the filling up of its bed, and while its channel might have formed a good natural defence, it would scarcely be described as "a deep gully or ravine."

Roach Smith² hesitates to pronounce any decided opinion upon the original site of the city, but expresses his agreement with much that is contained in the papers by Taylor; he is unwilling, however, to allow so restricted an area as is there defined. The difficulties attending this question are clearly stated by him:

If there be difficulty in recovering the plan of the internal arrangements of Londinium in its enlarged and full extent, as indicated by the wall yet partially standing, there are still more serious impediments to a satisfactory comprehension of the bounds of the primitive town. Here and there, during the late excavations for sewerage, for new streets and for other purposes, walls of great thickness, such as may be referred to a circumvallation, were intersected; but as no effort was made on the part of the Corporation to ascertain their course, the favourable opportunities thus afforded of making research were lost; and the question remains a matter of speculation, unsolved by any conclusive facts. The extraordinary substructures which were cut through in Bush Lane and in Scot's Yard may indicate a south-eastern boundary wall with a flanking tower. In Cornhill another thick wall, which seemed to point towards the Bank of England, was met with. Now if we assume, as probably with reason we may, that old London Bridge marked the centre of the earlier Londinium, the top of Fish Street Hill, at its junction with Gracechurch Street, Eastcheap and Cannon Street, may have been that centre.

There is greater difficulty in fixing the limits; and without the assistance of remains, and of any historical notices such as can be relied upon as bearing upon the question, every attempt must be almost wholly speculative. I should be inclined to place the northern wall somewhere along the course of Cornhill and Leadenhall Street; the eastern, in the direction of Billiter Street and Mark Lane; the southern, in the line of Upper and Lower Thames Street; and the western, on the eastern side of Walbrook. This suggested plan will give the form

¹ Pennant.

² *Illustrations of Roman London*, 14.

of an irregular square, in about the centre of each side of which may be placed the four main gates corresponding with Bridge Gate, Ludgate, Bishopsgate, and Aldgate.

J. E. Price admits the absence of evidence that a British city existed on the site of London, and says :¹

It has, however, still been sought by some to bestow upon London a British or Gaulish origin—to view it as a position of magnitude and importance long prior to the arrival of Julius Caesar. The evidence for this is, to say the least, most incomplete. The arguments in favour of it are such as will equally apply to the subsequent colonisation of the spot by Romanised Britons.

He, however, strongly urges the case for the early Roman city on the east of the Walbrook. Of this he says :

If we select the wards of Tower, Billingsgate, Bridge, Dowgate, Langbourne, Candlewick, Walbrook, and that portion of Bishopsgate Within which at one corner is bounded by St. Michael's Church, and may be extended for our purpose to the church of St. Peter on Cornhill, traditionally said to be the most ancient of the City churches, we shall inclose a space of ground twice as long as it is broad, and which possesses highways, parallel streets and roads strictly in accordance with Roman practice. It excludes the Tower, which was a detached fort and the whole of it probably external to the city at this early period.

In support of this view, however, Price gives no proofs of a satisfactory nature further than those put forward by his predecessors.

He makes a great point of the discovery of the *Arcus* at Bucklersbury,² which he assumes to be a boundary mark of the earlier city.

In the discovery at the Swan's Nest, he seeks to see another boundary mark east of the Walbrook. His evident desire to establish this point seems to have led him to consider himself justified in placing its position considerably to the east of the existing Swan's Nest on the map accompanying his remarks. He states that there is difficulty in exactly locating the spot, and says :

anywhere in the vicinity of the Swan's Nest could not have been far from the natural boundary marked by the bank of the ancient stream.

From Roach Smith's description of the discovery,

¹ National Safe Deposit, 11.

² National Safe Deposit, 32.

however, it would seem rather to be more to the west of it, for he says clearly that it was on the Coleman Street side near the public house called the Swan's Nest.¹

On the map (Plate VIII.) I have indicated the position of the present Swan's Nest (No. 8), but the actual site of the discovery should, I think, be still further from the stream and nearer to Coleman Street, which is the more important on account of the coin of Allectus associated with this find.

With regard to the *Arcus* at Bucklersbury there seems nothing to show what was its signification, but its position, well into the bed of the ancient stream and under a mass of wooden piling, hardly seems to favour the supposition that it marked the boundary of the earlier settlement east of the Walbrook, unless the writer had the mediaeval stream in his mind.

Still more recently Mr. Loftie,² apparently adopting the views of Price, refers to the question as a matter beyond doubt, and goes so far as to represent the shape of the early Roman settlement in some detail on a map.

This he shows as a snug little rectangular fort, having a curious triple apsidal termination at the west. The particularity with which the form is given, taken in conjunction with his statement that "its site has been thoroughly examined within the past few years," is quite misleading, and is apt to give the impression that the actual boundaries of the early city have been discovered.

To speak of any part of London as having been "thoroughly examined" sounds like pure satire to anyone at all acquainted with the melancholy history of London antiquities.

The authorities have, with few exceptions, consistently discouraged anything like investigation, and observers have failed, perhaps from lack of opportunity, to distinguish between objects coming from the lower deposits and those which have occurred higher in the Roman level. It is only in rare instances that the precise locality of relics has been recorded. For the most part, after passing from the workmen to the dealers, objects have come into

¹ *Archaeologia*, XXVII. 148.

² "London," *Historic Town Series*, 1890.

the possession of collectors with the more or less doubtful tradition of having been "found in London," devoid of any record as to the condition of their discovery.

Under these circumstances it is no wonder that those who have written on such things have regarded them more as a pretext for displaying their knowledge of every habitable portion of the earth except London, rather than as being the most trustworthy witnesses of matters relating to the early history of our venerable city.

It is apparent, therefore, that to speak of earlier Roman London is still a matter of great doubt and difficulty. How much light would have been thrown on this and many other questions relating to London had the site recently excavated been "thoroughly examined," perhaps the few imperfect notes that are here given may serve to show.

In many respects these excavations provided one of the most valuable sections that has been disclosed in London, on account of the gradual deposition and undisturbed state of the soil, and its containing such numerous relics, the great mass of which have been disregarded, lost, or rendered useless. As a large portion of the deposit remained untouched for weeks, the authorities had ample opportunity of making an investigation, without in any way interfering with the progress of the work, had they been so disposed.

A most valuable portion of the present evidence is provided by Mr. Kennard's examination of the organic remains, and his remarks on the nature of the soils. His great reputation as an authority on this branch of science makes it a matter for congratulation that he found a means of undertaking its investigation. It is the more necessary to lay stress on this owing to the exaggerated importance that has been attached to a letter which appeared in *The City Press* in which the writer has expressed the opinion that this deposit at Moorfields is not peat but "stable dung." It would have been unnecessary to refer to this letter but for the wide prominence given to it by writers on scientific matters,¹ who on the strength of these irresponsible

¹ "Excavations at the Glastonbury Lake Village." *Proceedings of the Somerset Archaeological and Natural History Society*, 3rd S. VIII. 102, and

statements have calmly swept aside the prolonged observations of an explorer of such great ability as General Pitt-Rivers, whose opinion was, moreover, supported by several competent authorities. It is quite inconceivable that anyone who had read General Pitt-Rivers's account, or who had even cursorily examined the deposit, would have given any consideration to such a view, unless to show the indifference with which London's antiquities are regarded and the anxiety displayed by the public to belittle their importance. Concerning this Roach Smith has said :

They seem rather pleased to find some daring champion who will decry the glory and honour of Roman London, because he helps to shield them from their share of reproach, under the pretext that what never existed could never have been destroyed.¹

The greater number of the relics also were discovered by Mr. Kennard.

THE RELICS.

The relics found by us represent an altogether insignificant proportion of what was produced from this site. Many of these objects also may be considered unworthy of the detail with which they have been described in the subjoined list. But trifling as many of them may be, compared with more striking relics frequently brought to light in London excavations, their value is enhanced by the record of their discovery in association with the pile structures. In view of future discoveries that may be made also their record may prove of value.

The greater number of the relics were doubtless carted away with the rubbish, but a great many were sold by the workmen, and have found their way into museums and private collections, some hundreds of which I have myself seen.

Private collectors and museum authorities usually care very little about the conditions under which relics are found, provided they look imposing in glass cases, and excite wonder from an uninformed public ; so unfortunately most objects thus preserved possess very little

Quarterly Journal of the Geological Society, LIX. (1903), 89.

¹ *Illustrations of Roman London*, 6.

scientific value. As, however, the far larger proportion of Roman relics from this site came from the level of the piles, those in the possession of the Guildhall Museum may have some claims to consideration; a list of these, which has been kindly prepared for me by Mr. George Lawrence, has therefore been added.

It is interesting to note that only one object of the Anglo-Saxon period has been recorded; this is a bronze tag-end of a belt, and is in the Guildhall collection.

To Dr. Munro are due the best thanks of both Mr. Kennard and myself for the kindly interest he has taken in the result of our investigations from the first moment the evidence was brought to his notice, and the great encouragement he has given us to fully publish the record.

My thanks are due also to Mr. George Clinch, and to Mr. Charles Welch, the librarian at the Guildhall, for the kind assistance they have given me in my endeavours to collect the record of former discoveries: also to Mr. Peers for valuable help and suggestions.

LIST OF RELICS FOUND ASSOCIATED WITH THE PILE STRUCTURES.

Bronze Objects.

Fibula, in form of a fish, ornamented with black and white enamel, length, Plate V. Fig. 1.

A similar fibula was found by General Pitt-Rivers in the Romano-British village of Rotherley, Wilts. See Vol. II. *Cranborne Chase*, Plate XCII. fig. 8, p. 118.

A note on this object will be found in *The Reliquary* for October, 1902.

Pin of *fibula*, $1\frac{3}{8}$ inch long.

Pin of *fibula* with spiral hinge, $1\frac{3}{8}$ inch long.

Ferrule, sealed at the end, $\frac{1}{2}$ inch long by $\frac{1}{4}$ inch wide at the opening.

Fig. 14 (c).

Four pieces of twisted bronze wire.

Lower portion of a seal case, Fig. 11 (4), pierced with four holes. It has a hinge, attached to which is a portion of the cover $\frac{1}{16}$ inch in diameter.

Piece of bronze band, pierced with a small hole in the centre, 1 inch from end, $4\frac{1}{2}$ inches long, $\frac{1}{2}$ inch wide.

Ring, probably a portion of horse trapping, $1\frac{3}{4}$ inch by $1\frac{1}{2}$ inch and $\frac{1}{4}$ inch in thickness, Fig. 14 (2).

Very thin band, bent flat; if straightened out would measure $2\frac{1}{2}$ inches, perforated with a small hole at one end $\frac{3}{8}$ inch wide.

Iron Objects.

Faying knife, or implement for cutting leather, Fig. 12 (7). It is inserted in an iron handle, the end of which is turned up as though to retain it in a wooden covering. The blade is 4 inches by $3\frac{1}{4}$ inches.

Small *fibula* with coiled spring $1\frac{1}{8}$ inch long, Fig. 11 (1).

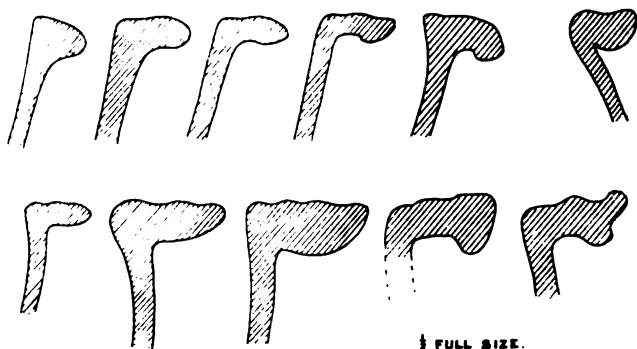


FIG. 13.—SECTIONS OF POTTERY RIMS FOUND WITH THE PILE STRUCTURES.

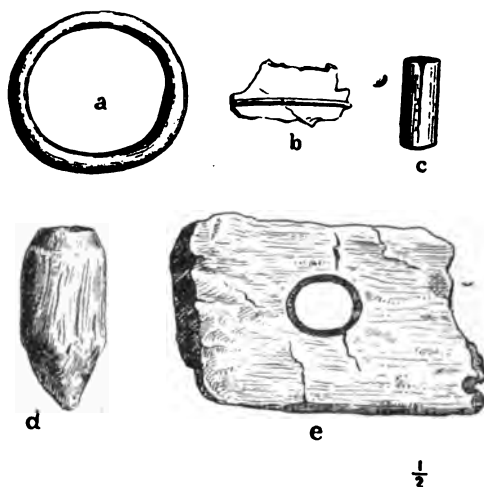


FIG. 14.—SUPPLEMENTARY OBJECTS FOUND WITH THE PILE STRUCTURES.

Hook, one return of which is flattened, 4 inches long; breadth at the flattened end $\frac{1}{2}$ inch, Fig. 12 (3).

Iron object, which probably formed the tang of a tool, to which is affixed a loop at the end. It appears to have been fastened to a wooden handle, having two holes, in one of which the head of a stud remains, Fig. 12 (5).

Pointed instrument of iron, 11 inches long, the blunt end is grooved for attachment, circular in section, $\frac{1}{4}$ inch in diameter at the thick end, and tapering to a point, Fig. 12 (11).

Thirteen needles, the largest of which is 5 inches long.

In most of them the eye is broken, but the groove still remains.

A thin iron hook 3 inches long, pierced at the broad end, with a hole for attachment, $\frac{1}{4}$ inch wide, tapering to a point 1 millimetre thick.

Object of unknown use, $6\frac{1}{4}$ inches long, $\frac{1}{2}$ inch wide at broad end, which is bent over to form an eye; it tapers to a point at the other end. Fig. 12 (4).

Frame of a buckle, $2\frac{1}{4}$ inches by 2 inches, Fig. 12 (1).

Object with a globular end, $5\frac{1}{4}$ inches long.

Piece of iron rod, flattened at one end, $4\frac{1}{2}$ inches long, $\frac{1}{16}$ inch thick.

Portions of an iron band, pierced with circular and square holes; the combined length measures $11\frac{1}{2}$ inches, but it is not complete; 1 inch wide, tapering to $\frac{5}{8}$ inch.

Two staples or dogs for fastening timber, (1) $2\frac{1}{2}$ inches long, flattened in its length to $\frac{5}{16}$ inch wide, the points 1 inch long and square in section, Fig. 12 (8); (2) $1\frac{1}{4}$ inch long, the points are chisel shaped, the broad axes being at right angles to each other, Fig. 12 (10).

Similar objects to No. 1 were found by General Pitt-Rivers in his Romano-British villages, see *Cranborne Chase*, Vols. II. and III. and *Essex Naturalist*, XI. 218, where this form is referred to as probably being a "strike-a-light."

Staple, with an eye formed by bending back a single rod of iron 2 inches long, Fig. 12 (6).

Another similar, $1\frac{3}{4}$ inch long, Fig. 12 (9).

Three hundred and sixty iron nails were found; the majority came from the level just overlying the tops of the piles.

The longest of these is 6 inches, the larger number average about 2 inches in length. One has three cuts to prevent slipping, a practice which is still resorted to by carpenters, Fig. 12 (2). One has a large flat head $\frac{3}{4}$ inch in diameter, the nail portion being only $\frac{3}{4}$ inch long.

Some hob nails also occurred.

Bone and Horn Objects.

Carved handle of knife or tool, with iron tang remaining. At the end it is pierced with a hole for suspension. Rectangular in section, $\frac{7}{16}$ inch by $\frac{1}{8}$ inch, Fig. 11 (3).

Butt end of a bone pin, $2\frac{1}{2}$ inches long by $\frac{1}{16}$ inch thick.

Point of another, $1\frac{1}{2}$ inch long by $\frac{1}{16}$ inch thick.

Portion of another, $2\frac{1}{4}$ inches long.

Tooth of a comb, 1 inch long.

Metacarpal bone of ox, with a circular hole drilled longitudinally, $\frac{1}{2}$ inch in diameter, apparently to receive the tang of a tool.

Tool known as a "pin polisher," see Plate VI. Figs. 1, 1a.

Tool apparently a rough form of "pin polisher," see Plate VI. Fig. 2.

Portion of a rib cut at both ends, and having marks of use by scraping, length 5 inches.

Six fragments of bone showing cutting marks.

Brow tine of red deer, with the burr, which has been cut from the main antler and from the skull, $5\frac{1}{2}$ inches long.

Brow tine and portion of main antler sawn from the skull. The main antler has been partially sawn through and broken.

Small horn core of an ox, cut from the skull, and rubbed down considerably on one side.

Lead Objects.

Seal, impressed with the letters "L. V." It was originally formed on a string, the hole through which this passed remaining; 1 inch long, $\frac{1}{4}$ inch deep, $\frac{1}{8}$ inch thick, Fig. 11 (2). See *Remarks on the Roman Military Signacula found in Britain*, by Alfred White, *Proceedings of the London and Middlesex Archaeological Society*, 1873, p. 120.

Piece of lead, roughly shaped and cut, length $2\frac{1}{2}$ inches.

Glass.

Three fragments of green glass, $\frac{1}{8}$ inch to $\frac{1}{16}$ inch in thickness.

A portion of rim of a white glass vessel, 2 inches wide.

A fragment of blue glass $\frac{1}{16}$ inch thick.

A fragment of green glass $\frac{1}{16}$ inch thick.

Several fragments of thin white glass ornamented with a raised band $\frac{1}{12}$ inch thick, Fig. 14 (b).

Piece of rough glass of irregular shape 2 inches long by $1\frac{1}{4}$ inch thick.

Several pieces of glass slag.

Stone Objects.

Whetstone, $4\frac{1}{2}$ inches long, about $1\frac{1}{4}$ inch square.

The stone is probably from the Forest of Dean.

No flint implements occurred, but two flakes were found.

Objects of Wood.

Pointed piece of oak $7\frac{1}{2}$ inches long, $\frac{1}{2}$ inch wide.

Wooden pin, $3\frac{3}{4}$ inches long, $\frac{1}{4}$ inch thick at butt end.

Wooden pin, $2\frac{1}{4}$ inches long, $\frac{1}{4}$ inch thick at butt end.

Piece of shaped wood, apparently a tool, 1 foot $5\frac{1}{2}$ inches long, about $1\frac{1}{2}$ inch wide, and $\frac{1}{2}$ inch thick. The grasping end cut and worn by use.

Wooden peg, sharpened at both ends, $2\frac{1}{2}$ inches long, $\frac{3}{4}$ inch thick, Fig. 14 (a).

Piece of flat board with grooves, 11 inches long, $4\frac{3}{4}$ inches wide, and 1 inch thick in thickest part. The grooves are about $\frac{1}{2}$ inch square. This is probably a portion of the superstructure of the dwellings, Fig. 9.

Piece of timber with tenoned ends, probably a portion of a window frame. 1 foot 5 inches long by $4\frac{1}{4}$ inches by 3 inches. A portion of a nail still remains in one of the tenons. The wood is cut away

on one side $1\frac{1}{2}$ inch in length and $\frac{1}{2}$ inch deep, to form the tenon, Fig. 9.

Piece of wood $\frac{1}{2}$ inch thick, pierced with a hole $\frac{3}{4}$ inch in diameter. It has the remains of a nail hole in one corner.

A number of specimens of the wood have been submitted to Mr. George Ellis, who pronounces all the portions of piles, planks and the great majority of other fragments to be oak; a few small pieces are willow.

Leather Objects.

Sole of a *caliga* studded with hob nails. Plate V.

Portion of a child's shoe, $3\frac{1}{2}$ inches by 2 inches.

Small piece of thin leather, $3\frac{1}{4}$ inches long.

Pottery.

Considerable quantities of pottery fragments of the usual Romano-British wares were found, but no perfect vessels.

No instance of hand-made pottery occurred.

The larger proportion of the fragments came from the upper portion of the platforms, but were fairly plentiful throughout the filling at the level of the piles.

A few pieces were also found in the deposit immediately overlying the gravel. A selection of characteristic specimens is given on Plate VII.

Of the various descriptions the black ware, ornamented with slightly impressed diagonal lines, was the most common. See Nos. 1, 2 and 3. A small series of sections of rims is also given, Fig. 13. The majority of these are the basin shaped vessels of this black ware, most of which are of the simpler type.

Varieties of the grey, buff and brick-red wares were also plentiful, Nos. 4, 5, 7 and 8, Plate VII.

The coarser wares were uncommon, only five fragments of the description of No. 9 occurred: this is a grey ware having grains of quartz or flint, ornamented with a band of thumb-nail marks.

Only two or three small fragments were found of the fine thin ware ornamented with parallel rows of dots of slip, of which No. 6 is one. The slip painted pottery known as "New Forest" was totally absent. Considering the large quantity of pottery which occurred, this is noteworthy, and may indicate that this slip painted ware belongs to the later portion of the Roman period.

Several large fragments of *amphoræ* and many portions of *mortaria*, such as No. 10, were discovered.

Red "Samian" was abundant, but the larger proportion of that from the level of the piles was of the plain description, while in the higher portion of the Roman deposit, although a comparatively smaller quantity was found, the proportion of richly figured ware was far larger.

The ornamental "Samian" found associated with the piles was mostly of that description in which the whole surface of the vessel has been decorated with delicate filigree and diaper ornament in low relief,

the design being for the most part of a conventional nature and having the mouldings slightly impressed with lines formed by a milling wheel. The glaze is hard and bright (Plate IX).

In the upper levels there was a predominance of the ware in which the decoration is of a broader treatment, in which a more frequent use is made of natural forms and is modelled in higher relief. The design is contrasted with broad plain bands and spaces. The body of this ware is rather thicker, the glaze generally softer and less brilliant than the former class.

The objects from the site of the National Safe Deposit, which are preserved in the Guildhall Museum, have the distinction of forming one of the few instances of Roman discoveries in London in which some care has been exercised in their record, and they have fortunately been kept together. Many of the conditions of their discovery are similar to those of the site under notice, among others the fact that by far the larger proportion of the relics occurred in the lower levels, and owing to this happy chance we have a varied collection of objects bearing a fairly reliable and restricted locality.

Their position and the large number of coins found, none of which is later than the reign of Antoninus Pius, show that this discovery relates to the earlier period of the Roman occupation.

It is interesting therefore to find that the "Samian" ware from this site is mostly of the former quality referred to above. This taken in conjunction with that discovered recently with the piles, seems to show that this class of the glazed red ware is referable to the time before the end of the second century, while the latter description belongs mostly to the subsequent period.

The following potters' names occurred :

KJF^(V)FK,—ALBVC I . M.,—CACASI M., CIRRV S F., COMPRINNI . M.,—MINETTA,—PECULIAR F (^(C)CVLÆ) RUFFI . M.

All these, with the exception of the first and the sixth, are included in Roach Smith's list.¹

Several fragments of roofing and flooring tiles occurred in the soil about the piles. No perfect specimen was found, though several portions of both the *tegula* and *imbrex* were among the fragments. Gen. Pitts-Rivers also records that no entire tiles were found on the site south of the wall.

Many of the fragments showed marks of fire, as if they had been used as hearths, and others had traces of molten matter or glaze.

LIST OF OBJECTS IN THE GUILDHALL MUSEUM.

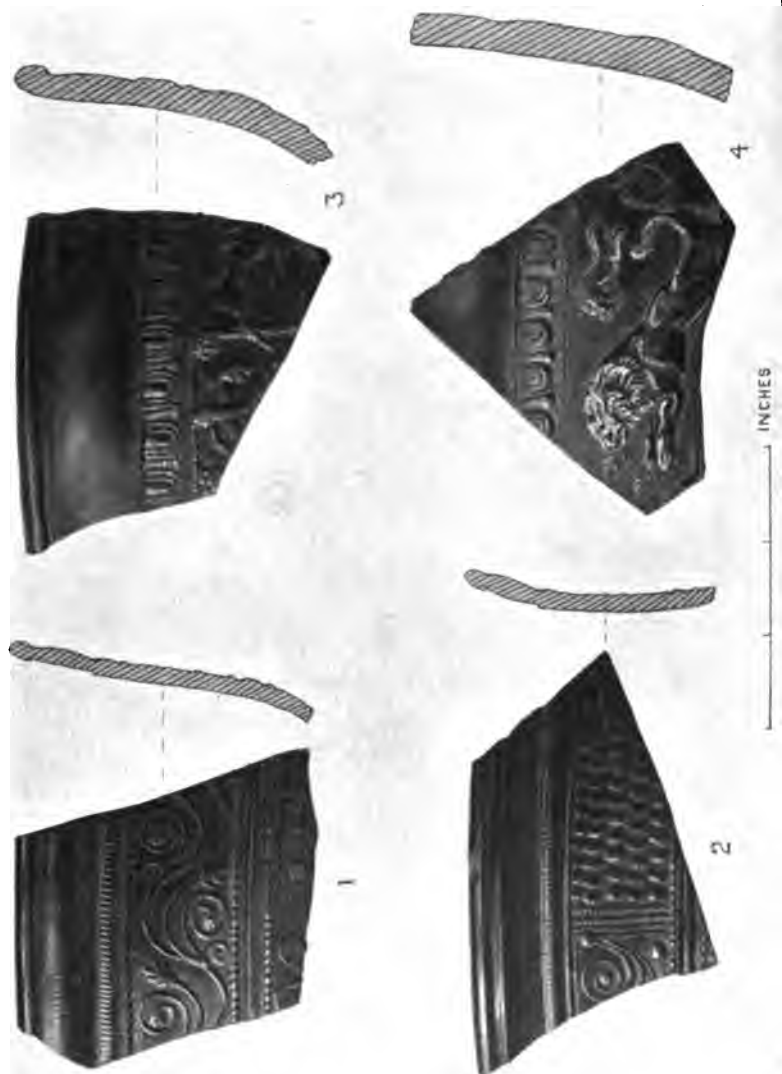
From the site of the warehouse of Messrs. Gooch and Cousens, where Gen. Pitt-Rivers's observations were made :

Spear-head, iron, 10½ inches long.

Horse-bell, iron, 2½ inches by 2⅞ inches globular form, pierced with four circular holes and oblong slit in lower portion (loop missing).

Iron knife.

¹ *Illustrations of Roman London*, 102.



FRAGMENTS OF SAMIAN WARE.
1 AND 2 FROM LEVEL OF PILLS. 3 AND 4 FROM UPPER ROMAN LEVEL.

Vase, four-lobed, on circular tubular stand $3\frac{1}{4}$ inches high by $4\frac{1}{4}$ inches diameter.

Handle, formed from leg-bone of deer or ox.

Site of London Wall Estate Offices :

Two bronze bowls.

A quantity of bronze wire.

Neck-chain of fine twisted bronze wire.

Bronze-piercer, flat tang, pierced with three rivet holes for handle plates. Upper portion of handle ornamented with incised crossed lines, $3\frac{1}{4}$ inches long.

Iron piercer, with deep grooves.

Iron piercer.

Iron piercer, of slender form, pointed at each end, $4\frac{1}{8}$ inches long.

Five hippo-sandals.

Lamp of pottery.

Lamp mould.

Spindle-whorl of pottery.

Bone implement, flat, probably for weaving.

Ring (portion of), iron, with jasper intaglio, on which is engraved a nude male figure, bearing a patera in right hand, cornucopia in left.

Twelve human skulls.

Coins.

From Gooch and Cousens ...	Nero ...	...	2nd Brass.
" " "	Vespasian ...	"	"
" " "	Trajan ...	"	"
" " "	Faustina ...	"	"
" " "	Antoninus Pius	"	"
" London Wall Estate Offices.	" "	"	"
" Walbrook (locality not recorded).	" "	"	"
" Walbrook (locality not recorded).	Trajan ...	...	1st Brass.
" Walbrook (locality not recorded).	Mons Agrippa...	—	—
" Moorfields, Eldon Street.	Clodius Albinus.	—	—

The objects from the site of the National Safe Deposit are also from the Walbrook and are preserved by themselves in the Guildhall Museum.

Among other objects from the site recently excavated, in the collection of Mr. W. M. Newton of Dartford, is a coin of Trajan, a fine bronze *fibula* with blue enamel and 12 hippo-sandals.

These last objects, whose use has never been satisfactorily explained, demand some notice.

They are supposed to have formed a shoeing for horses, and on account of the large proportion of them having been found at

Moorfields, which has generally been held to have always been a marsh, it has been argued that the special use of these objects was for horses on soft and quaggy ground.

Those having a practical knowledge of horses say that the use of such objects, so far from being of any assistance to animals on soft ground, would rather tend to impede them, and that more probably they were for occasional use for animals generally on fields and unshod, when taken on the hard roads.

Although no record seems to have been made of the depth at which these objects have been found, most of them bear traces of having come from the gravel which by corrosion still adheres to their surfaces.

The great probability seems to be, therefore, that they were in use before the formation of the swamp, and that the explanation of their use on soft ground is only another error caused by the general misconception of the marsh conditions in early Roman times on Moorfields.

APPENDIX.

THE ORGANIC REMAINS AND NATURE OF THE SOIL.

By A. S. KENNARD.

The sections exposed in the excavations were of great importance, since it is not often that so large an area is excavated in London.

Over the larger part the details were constant, viz.

- (1) Made earth, 6 to 8 feet ; passing into
- (2) peaty loam and peat, 6 to 9 feet.
- (3) Coarse gravel resting on London clay, which was only reached in the deeper trenches.

There was sometimes a layer of sand or sandy gravel between 2 and 3, whilst the upper part of the gravel was always stained by the overlying peat.

The made earth was of the character so well known in London, and contained broken greybeards, slip, delft, Chinese porcelain, and other pottery used during the last three centuries, numerous tobacco pipes, articles of metal, and numerous bones.

The following initials were noted on the tobacco pipes :

On the base "H."

On the sides of the foot "P," "W," "S. E." "H," "S" (three specimens) and "A. I.," surmounted by a crown.

Shells of the mussel (*mytilus edulis*), cockle (*cardium edule*), winkle (*littorina littorea*) and oyster (*ostrea edulis*) also occurred.

The species of animals represented were :

Hare (*lepus europaeus*).

Sheep (*ovis aries*).

Roebuck (*capreolus capra*).

Pig (*sus scrofa domestica*).

Red deer (*cervus elaphus*).

Fallow deer (*cervus dama*).

Dog (*canis familiaris*).

Ox (*bos longifrons*).

Cat (*felis catus*).

Urus (*bos primigenius*).

Rabbit (*lepus cuniculus*).

The bones were as a rule scattered, but occasionally a large mass of ox bones would occur, evidently the refuse of the slaughter houses. No perfect skull of the ox was noted, but numerous horn cores, with portions of the skull still attached, were very common. In nearly every case the point of the horn core had been removed by sawing. The urus (*bos primigenius*) was represented by a single horn core, and was identified for us by Professor N. Duerst, of Zurich, whose researches in the *bovidæ* are so well known. In all probability the individual to which the horn core belonged had been imported into this country. The red deer was represented by a frontal with the antlers still attached, whilst of the fallow deer only metacarpals and metatarsals were noted.

The made earth passed gradually into the peat, there being in no section a sharp line of demarcation between them; but the passage was often well marked by a layer of Tudor leather and an abundance of perfect and broken bones, some of which were stained a beautiful green by vivianite.

Since this passage bed is of great importance, it is advisable to consider the remains found in it apart from the upper and lower layers into which it passes.

The animals noted were :

Sheep (*ovis aries*).

Pig (*sus scrofa domestica*).

Dog (*canis familiaris*).

Rabbit (*lepus cuniculus*).

Hare (*lepus europæus*).

Horse (*equus caballus*).

Ox (*bos longifrons*).

Red deer (*cervus elaphus*).

Fallow deer (*cervus dama*),
and numerous bird and fish bones.

The same species of edible *mollusca* as in the made earth were also present, and we also noted one valve of the scallop (*pecten maximus*), one of *naucoma bulthica*, and a few shells of the whelk (*buccinum undatum*). It is noteworthy that although the last species was a favourite article of food in the Middle Ages, no less than 8,000 being supplied at the enthronization feast of William Warham, Archbishop of Canterbury, in 1504, less than a dozen examples were found by us.

Fragments of pottery with green and brown glaze also occurred, as well as shells of the walnut and hazel nut, and broken egg shells.

From the nature of this passage bed, and the absence of all fresh-water shells, it is evident that at the time it was accumulated there was not a permanent swamp, but only wet ground during rainy weather, and that it was the dumping ground for the refuse of the city.

The peat, so called, was by no means a homogeneous deposit. At the base it was a carbonaceous silt containing many fresh water and a few land shells, the bivalves being often in the position of life, and having their valves united. Its whole character clearly indicated that it had been deposited by a slow stream. In the middle part, however, a gradual change was seen to take place, the vegetable remains becoming more and more numerous, until in the upper part it became a true peat, being composed almost entirely of vegetable matter. Many of these vegetable remains were well preserved, and were obviously those of aquatic plants. It is noteworthy that the semi-aquatic mollusc *succinea elegans* [Risso.] was not common in the lower part, but increased in numbers in the middle portion, until in the true peat it was almost the sole representative. Caddis worm cases and wing cases of beetles occurred.

The following animals were noted :

Sheep (*oris aries*).
 Dog (*canis familiaris*).
 Pig (*sus scrofa*).
 Rabbit (*lepus cuniculus*).
 Horse (*equus caballus*).
 Ox (*bos longifrons*).
 Red deer (*cervus elaphus*).
 Roebuck (*capreolus capra*).
 Water-rat (*microtus amphibius*).
 Frog (*rana temporaria*).

It is also possible that the wolf was represented by a skull, but it is extremely difficult, if not impossible, to differentiate between the dog and wolf. The remains of the horse were very common, in many cases the whole skeleton being present. In one place was a very large accumulation of broken bones of ox and sheep, with a few bones of rabbit and fragments of Romano-British pottery at the base of the peat and resting on the gravel,¹ obviously the refuse of meals.

The roebuck was represented by a much worn antler with part of the skull attached. It probably had been used as a tool, and bore the marks of hacking on the pedicle which is nearly always present in examples from London.

It may be noticed that the fallow deer is absent from the peat, thus confirming the view that this form is a late introduction in these islands.

The species of non-marine *mollusca* occurring in the peat were² :

Agriolimax agrestis (Linn.)
Vitrea cellaria (Müll.)
Vitrea nitida (Müll.)
Hygromia hispida (Linn.)
Vallonia pulchella (Müll.)
Helix aspersa (Müll.)
Helix nemoralis (Linn.)
Cochlicopa lubrica (Müll.)

¹ See *Science Gossip*, N.S. VII. 319.

² See *Proc. Malac. Soc. Lond.*, V. 180-182.

Succinea elegans (Risso.)
Carychium minimum (Müll.)
Velleia lacustris (Linn.)
Limnaea pereger (Müll.)
Limnaea palustris (Müll.)
Limnaea stagnalis (Linn.)
Physa fontinalis (Linn.)
Physa hypnorum (Linn.)
Planorbis corneus (Linn.)
Planorbis albus (Müll.)
Planorbis glaber (Jeff.)
Planorbis navitileus (Linn.)
Planorbis complanatus (Müll.)
Planorbis vortex (Linn.)
Planorbis spirorbis (Müll.)
Planorbis contortus (Linn.)
Planorbis fontanus (Light.)
Bithynia tentaculata (Linn.)
Bithynia leachii (Shepp.)
Valvata piscinalis (Müll.)
Valvata cristata (Müll.)
Sphaerium corneum (Linn.)
Sphaerium lacustre (Müll.)
Pisidium pusillum (Gmel.)
Pisidium nitidum (Jenyns.)
Pisidium milium ("Auct.")

Of these twenty-four species are aquatic, one semi-aquatic, and nine land shells. Characteristic Roman and Romano-British pottery occurred from the base to a considerable height. Numerous flint pebbles were to be seen in the peat, doubtless thrown in by the juveniles of the period. Two artificial flint flakes were found in the lower part. Fragments of charcoal also occurred scattered throughout.

The shells of marine mollusca were by no means uncommon in the lower peat though less so in the middle, the most abundant form being the oyster (*ostrea edulis*).

We also noted numerous mussels (*mytilus edulis*), a few winkles (*littorina littorea*) and cockles (*cardium edule*).

Though no bone skates were found by us, yet two bone spikes were found in the upper peat. These objects which are well known to all collectors of London antiquities, always occur associated with bone skates, and are only known from Moorfields and its vicinity. Fitzstephen states that the skater propelled himself by means of an iron-shod pole, and in all probability bone spikes were often substituted for iron, for obvious reasons, and were used in a similar manner. Additional evidence is thus furnished of the post-Roman age of these objects.¹

The gravel on which the peat rested is the well known middle terrace gravel, and is of pleistocene age, and no worked flints were found, though careful search was made.

¹ See Dr. R. Munro, *Prehistoric Problems*, 287-307.

In the eastern portion of the area the sections were different. Here was the old bed of the Walbrook, and besides the peat of the marsh true stream deposits had accumulated.

One section noted cut through the bank of gravel, the contrast between this and the sand and peaty loam of the stream bed being very marked. It was impossible to trace the exact height of the bank, since the bottom was not exposed, but the bank was seen to be $3\frac{1}{2}$ feet high. The stream deposits consisted of gravel, fine sand, and peaty loam, the action of the piles in checking the flow of the stream and causing the deposition of the coarser material being well shown. At times these deposits gradually passed into the overlying peat, but there was sometimes a well marked break between the fine sand and the peat.

Besides the objects of human origin and the human *crania* found associated with the piles, we noted the following animals :

Pig (*sus scrofa ferus*).
Ox (*bos longifrons*).
Horse (*equus caballus*).
Sheep (*ovis aries*).
Goat (*capra hircus*).
Rabbit (*lepus cuniculus*).
Red deer (*cervus elaphus*).
Fowl (*gallus domesticus*),
and the lower jaw of a small cetacean.

Many of the bones were broken, as though to obtain the marrow, and in some instances the broken ends were blunt. The sheep was represented by a nearly complete skull, several imperfect *rami*, and an imperfect metacarpal, rather larger than any of the Roman examples figured by General Pitt-Rivers. Besides several limb bones belonging to young examples of the pig, one fine tusk of the wild boar was also obtained, which had been hacked from the *ramus*.

Shells of the mussel (*mytilus edulis*) and oyster (*ostrea edulis*) were also found.

From the above facts it is easy to read the history of the locality. From the occurrence of the heap of broken bones and pottery of the Roman age resting on the gravel, it is evident that there could not have been any marsh in pre-Roman or early Roman times, the Walbrook flowing normally in its bed, and the surrounding country being dry land. The probable cause of the marsh was the obstructions to the course of the stream, first by the pile structures, and then by the building of the wall. Deposition would take place at first in the stream bed, and as this was gradually silted up, the stream would overflow its banks and a large mere would be the result. This condition of things lasted for several centuries, certainly from Roman times to the Middle Ages; but gradually by drainage the mere became a marsh or morass, the fresh-water shells died out, and the semi-aquatic *succineae* living in myriads on the stems of the marsh plants, until the area became dry ground, and was the dumping ground for the refuse of the city. It has recently been suggested by Mr. E. Sloper, F.G.S. (*The City*

¹ *Excavations in Cranborne Chase*, II. plate CLXIII.

Press, 2nd April, 1902), that the peat in Moorfields is stable dung. He also adds with reference to the discovery of pile structures on the south side of London Wall by General Pitt-Rivers in 1866, "It is clear that this was another clay pit filled up with rubbish through which the foundations of houses had been laid in a modern period."

We venture to think that these views are quite at variance with the ascertained facts; the nature and the contained *fauna* of the deposit clearly show that it was a fresh-water accumulation, and not stable refuse, whilst the Roman age of the piles is beyond dispute.

THE AUCISSA FIBULAE.

By F. HAVERFIELD, M.A., F.S.A., Hon.F.S.A.Scot.

The practice of inscribing *fibulae* with makers' names was probably not very widespread in the Roman world. The recorded instances of *fibulae* thus marked are few, and though others doubtless exist in public and private collections, ignored and undescribed, these can hardly be numerous enough to swell the total to a great size.

Probably the least rare of these *fibulae* are those which bear the maker's name AUCISSA.¹ They all, so far as is recorded, belong to one and the same type of *fibula*. It is a simple type, devoid of elaborate devices or complicated ornament, but it possesses definite features. Instead of the usual spiral coil or spring to control the pin, it has (like some other Roman types) a hinge working inside a tiny cylinder, which is so short as hardly to project sideways beyond the breadth of the rest of the object. The name Aucissa is in each case placed just above this cylinder. The pin is straight; the sheath in which its point rests, when it is fastened for use, is plain and small and often terminates in a knob. The bow is roughly semicircular; it is a flat narrowish band of metal, widest near the hinge and decorated only by lines and beading which run along it. Enamelling seems in no case to be used. This type of *fibula* is not confined to the name Aucissa. It occurs occasionally with other names. It occurs exceedingly often uninscribed, having been found very commonly in many parts of the Roman Empire north of the Mediterranean, and outside it; Almgren quotes an example found as far away as the Government of Tomsk in Siberia, and Tischler mentions instances from the Caucasus.

The following is, I believe, a completer list than any yet published, of the specimens marked with the name Aucissa, and it includes two unedited items from Britain (16, 17). I have put first in the list those found in

¹ I assume the commoner form *Aucissa* to be correct and the rarer *Augissa* a variety or an error.

Italy or close to it, then those found in Gaul, and lastly those from other places. As several of the specimens are of uncertain or unknown *provenance*, it is possible that we may in some cases be dealing with duplicate notices of the same object, seen at different times in different dealers' shops.

(1) Found near Rome, in excavations on the Via Nomentana, about 1830, inscribed AVGISSA. Kestner, *Bullettino dell' istituto di corrispondenza archeologica* (Rome), 1831, p. 42. He does not say whether the *fibula* was found associated with objects of any particular date. Hence Dressel, C.I.L. XV. 7096, reading AVGISSA.

(2) Found at Rome in the river Tiber; now in the museum at the Baths of Diocletian. Inscribed AVCISSA. Dressel, C.I.L. XV. 7096.

(3) Uncertain provenance, but probably found in Rome: seen there in a private collection. Inscribed AVCISSA. Dressel, C.I.L. XV. 7096.

(4) Castel d'Asso, in Etruria. Inscription faint, read as AVGISSA. Bormann, C.I.L. XI. 6719, 2.

(5) Arezzo (Arretium) in Etruria. Inscription read as VSSDAV but plainly AVCISSA like No. 7. Borman, C.I.L. XI. 6719, 2, from an old MS. source (*Cod. Maruc. A*, 198, fo. 529).

(6) Found (apparently) near Chiusi in Etruria. Inscribed AVCISSA. Gamurrini, *Appendice* (Florence, 1880), No. 495: hence Milani, *Strena Helbigiana*, p. 194, etc.

(7) Found near Marzabotto, in the Apennines south of Bologna, now in the Marzabotto Museum. Inscribed AVCISSA. G. Gozzadini, *Di un' antica necropoli* (Bologna, 1865), pp. 31, 54, and plate xvii. 17; Montelius, *Civilisation primitive en Italie* (Stockholm, 1895), I. fig. 184, with a cut here reproduced (fig. 1):

hence Almgren, *Nordeuropäische Fibelformen*, No. 242, Milani (as above); C.I.L. XI. 6719, 2. The remains found at Marzabotto are mainly Etruscan, in some part Gaulish;



FIG. 1.—FOUND AT MARZABOTTO, ITALY. (Full size.)

few appear to be later than the Roman conquest of the district in the third century B.C. But this *fibula* differs widely from the other Marzabotto finds; the actual place of its discovery is not recorded, and Tischler is doubtless right (*Gurina*, p. 30), in separating it from the remains with which it is usually classed.¹ The reading of the name was at first taken to be *aurssa*, but *aucissa* seems to be certain. The Q is merely CI coalescing, as on Nos. 5, 12, 14 and 16.

(8) Uncertain *provenance*: seen in a private collection in Naples. Inscribed .. AVCISSA .. Parascandolo, *Cariatidi* (Naples, 1817), p. 88, note 139, with cut; hence Milani (as above), Mommsen, C.I.L. X. 8072, 22. I reproduce the cut from Milani (fig. 2).

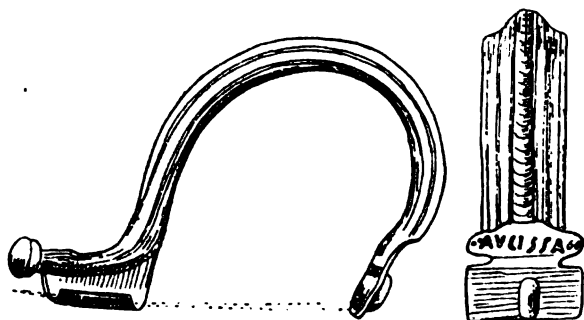


FIG. 2.—FOUND PROBABLY NEAR NAPLES.

(9) Uncertain *provenance*: seen in a dealer's shop in Florence. Inscribed AVCISSA or AVGISSA. R. Garucci, *Sylloge inscriptionum lat.* (Turin, 1877), No. 2272; Bormann, C.I.L. XI. 6719, 2. It is not, however, clear whether these two writers refer, between them, to one, or two, or possibly three *fibulae*.

(10) Found at Isera, near Nemesino, in North Italy; now in the Innsbrück Museum. Said to be inscribed AVESSAI or AVGSSAI. H. Pais, *Supplementa Italica ad C.I.L. V.* (Rome, 1888), 1087, 2 (from Orsi). Plainly *Aucissa*, misread or imperfect.

¹ It is usually asserted that all the Marzabotto finds are pre-Roman, but Gozzadini's plates include a few pieces which are pretty certainly much later.

They may have been found separately. Tischler's view is accepted by Brizio, *Monumenti Antichi*, i. (1889), 330.

(11) Siscia (Sissek, in Croatia); now in the museum at Vienna. Inscribed $\Lambda VCISSA$ Λ . C.I.L. III. 12,031, 2 (from Kubitschek).

(12) Dalheim, near Luxemburg, now in the Trier Museum. Inscribed $\Lambda VCISSA$ Λ . F. Hettner, *Westdeutsche Zeitschrift*, iii. 186; A. Riese, *Correspondenzblatt*, xvi. 136. I am indebted to Dr. E. Krüger for casts of the inscription. The V is faint; the CI coalesce (or almost so); at the end is an upright stroke of which the top is lost, possibly F for *fecit*, possibly ornament. Numerous Roman remains have been found at Dalheim, and among them uninscribed *fibulae* of the Aucissa type and objects datable to the commencement of the Empire: see *Publications de la soc. pour la recherche . . . dans le grand-duché de Luxembourg*, ix. (1854), and xi. (1856), p. lxxi.

(13) Mainz or near it (? Rheinzabern); now in the Mainz Museum, No. 2272. Inscribed $III \Lambda VCISSA$. Becker, *Römische Inschriften des Museums der Stadt Mainz* (Mainz, 1875), p. 113; Brambach, 1821, etc. all reading backwards $VASDAVIII$; corrected by Riese (as above), and Körber, *Inschriften des Mainzer Museums* (Mainz, 1900), No. 155, with a cut here reproduced (fig. 3). The three lines at the beginning seem to be rude ornament, with no special meaning; they recur on No. 17.

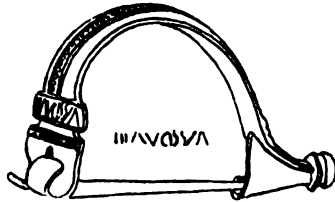


FIG. 3.—FOUND NEAR MAINZ, GERMANY. (Full size.)

(14) Uncertain *provenance*: bought from a dealer at Alzey in Rheinhessen and probably found near that town, now (or recently) in private possession of Dr. Fliedner in Monsheim, near Worms. Inscribed $\Lambda VCISSA$ Λ .

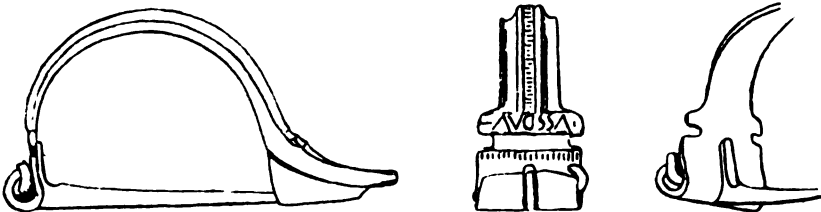


FIG. 4.—FOUND IN RHEINHESSEN, GERMANY.

O. Olshausen, *Verhandlungen der Berliner Gesellschaft für Anthropologie*, 1897, p. 286, with cut here reproduced (fig. 4). The pin of this *fibula* has a small spur close to the hinge which fits tight against the bow (behind the hinge) when the pin is fastened in its sheath; No. 17 has a similar spur and so have several uninscribed specimens which I have seen.

(15) Uncertain *provenance*: bought from a dealer in Paris in 1875 and now in the St. Germain Museum, No. 22,266. Inscribed AVCISSA. Maxe-Werly, *Bulletin de la Société des Ant. de France*, 1883, p. 291 (figure of the inscribed part), R. Mowat, *Bulletin Epigraphique*, iii. 273.

(16) Found at Charterhouse-on-Mendip, in Somerset; now in private possession of Mr. A. C. Pass, of Clifton, Bristol. Inscribed AVCISS or AVCISS. Unpublished: my copy. I am not sure if the pin is the original one nor whether the CI of the inscription coalesce quite entirely. There is room for an A at the end, but no sign of it. This and the following item were found about 1875 in some lead workings on the site of the Roman lead mines. The circumstances of their discovery were not noted. Of the objects found at the spot about 1875 a few seem pre-Roman; the rest are Roman of various dates from about A.D. 49 onwards (fig. 5, upper part).

(17) Same place and history. Inscribed IIIAVCISS. Unpublished: my copy. There are two doubtful strokes which are faintly indicated in the cut (fig. 5), viz. a fourth stroke before \wedge and a second before S; I think these are probably accidental. There is no space for an A at the end. The three strokes before \wedge , doubtless mere ornament, recur on No. 13; the pin has a spur like that of No. 14.

(18) Found at Hissarlik in the Troad, in the uppermost (Graeco-Roman) stratum; now at Berlin in the Museum für Völkerkunde (Schliemann collection 6532). Inscribed AVCISSA. Olshausen, as above; Götze in W. Dörpfeld's *Traja und Ilion* (Athens 1902) p. 414, fig. 436; Dr. Götze and Mr. C. H. Blakiston have kindly re-examined the *fibula* for me and attest the reading which I give.

(19) Found in the Kuban region, in the Western

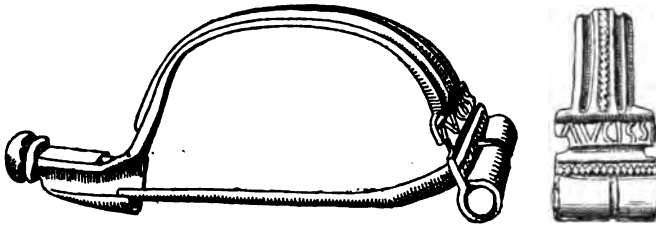


FIG. 5.—FIBULÆ FOUND AT CHARTERHOUSE ON MENDIP,
NEAR CHEDDAR, SOMERSET. (Full size.)



FIG. 6.—PERHAPS FOUND IN ROME. (Full size.)

Caucasus; now in the Berlin Museum für Völkerkunde. Inscribed AVGSS! Olshausen, as above; re-examined for me by Dr. Götze and Mr. C. H. Blakiston.

(20) Found at Kurtatija in the Caucasus, now in the Berlin Museum für Völkerkunde. Inscribed AVCSSA. Unpublished: communicated to me by Dr. Götze and Mr. C. H. Blakiston.

(21) Unknown *provenance*: now in the Berlin Antiquarium (from Gerhard's collection). Inscribed AV. CISSA according to C. Friederichs, *Berlins Antike Bildwerke*, ii. (Kleinere Kunst), p. 100, No. 263; hence Furtwängler, *Olympia*, iv. (Bronzen), 183, etc. Dressel, C.I.L. XV. 7096, gives AVGISSA and suggests that the piece came from Rome. By the kindness of Dr. Pernice, of the Antiquarium, I am able to give an illustration (fig. 6). He tells me that the lettering is really AVCISSA and so it appears on the photograph, and on a cast which he has kindly sent me. But it is a C that is very like a G.

Two observations must naturally occur to any reader of this list. In the first place, the records of the finds are throughout so imperfect that they help very little in determining the date of the *fibulae*. And in the second place, the distribution of the finds is so strange that it leaves us in considerable perplexity as to the place of their original manufacture. Two views have been held on these questions. Italian writers, like Milani, consider the Aucissa *fibulae* to be Etruscan, or at least Etrusco-Roman; they refer them to the third or second century B.C., and explain Aucissa as an Etruscan name. On the other hand, German writers, like Schumacher, Riese, and Ritterling, call them Gaulish, and perhaps eastern Gaulish (Rhenish or Alpine) rather than Gaulish proper, and date them to the beginning of our era and the first century A.D. The available evidence seems on the whole to favour the latter view, but it is conflicting and justifies hesitation.

In the first place, as to the date. The records of the Aucissa *fibulae*, as I have said, do not help in this matter; none of the twenty-one specimens is known to have been found with objects by which it could be dated. But the uninscribed *fibulae* of the same type lend some

light. One, figured by Montelius (plate xiii. fig. 183, whence fig. 7 here) was found at Carrù in Piedmont in

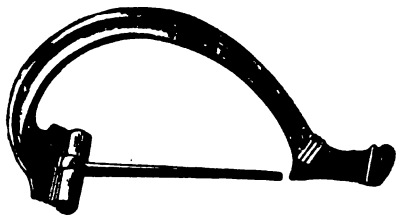


FIG. 7.—FOUND AT CARRÙ, ITALY.
(Full size.)

a grave with a coin of the Emperor Tiberius.¹ Others have been found at Haltern (perhaps the Roman Aliso) in Germany (fig. 8), at Andernach on the Rhine and at Mont Beuvray in France, on sites which belong to the beginning of our era and

along with datable objects such as coins of Augustus.² On the other hand they are rare at Heddernheim (near Frankfurt am Main), a site first occupied about A.D. 80,³

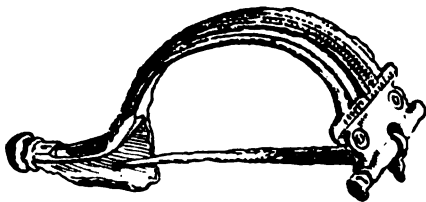


FIG. 8.—HALTERN, GERMANY.
(Three-quarter size.)

and they appear not to occur at all in the forts of the Rheno-Danubian Limes, which belong to the second and third centuries of our era.

The few facts that I have been able to collect about undescribed Aucissa *fibulae* in our island tend in the same direction. No specimens seem to have been found in the north, in the region of the two walls, nor at York, nor again at Caerwent: places where the Roman occupation dates, at earliest, from the later years of the first century. But a specimen has been found at Hod Hill, where the remains belong to the first half of the

¹ Fabretti, *Atti della società d'archeologia per la provincia di Torino* ii (1879), pl. IV. fig. 6, cited by Milani in *Strena Helbigiana*, 149.

² E. Ritterling, *Haltern*, 116; O. Hirschfeld, *Sitzungsberichte der kgl. preuss. Akademie*, 1897, 1103. See also Tischler's article in A. B. Meyer's *Gurina*, p. 30, and K. Schumacher, *Westdeutsches Korrespondenzblatt*, 1895, 25-28. Hettner, in his *Drei Tempelbezirke im Trevererlande* (Trier, 1901), p. 26, cites an example found with a coin of Nero. Bianchetti, *Sepolcreti di*

Ornavasso in *Atti della società di archeologia di Torino*, vi. (1895), 224, plate X. 16, cites an example found with a coin of Augustus (B.C. 12). Ghirardini in *Notizie degli Scavi*, 1883, p. 410 (plate xvii. 13) cites another from Este. I should add that Milani cites an example with added carving from Populonia and connects it with objects of B.C. 250-150, but it is not clear that the fibula was actually discovered with those objects.

³ A. Riese, *Mittheilungen über römische Funde in Heddernheim*, II. 33.

first century, and at several sites in the south which might be connected with the earlier years of the Roman Conquest. A specimen found near Meols in Cheshire is matched by British coins found at the same place. On the other hand, Mr. Lawson's museum at Aldborough (*Isurium*) contains a specimen, and we can hardly place the occupation of *Isurium* earlier than the latter part of the first century.¹

These indications of date are in harmony with the general characteristics of the *fibulae* themselves. We cannot, indeed, decide on our present evidence either the place where or the time when the hinge was first adopted in place of the spiral coil for the attachment of the *fibula* pin. But it is a device which belongs to the Roman Empire much more than to the earlier periods in the long history of the *fibula*, and we can hardly attribute it to so early a date as the second or third century B.C. Again, the ornamentation of the bow of the Aucissa *fibulae*, while it finds analogies in other *fibulae* used during the early Empire, differs considerably from most of the earlier work.²

More difficulties arise when we proceed from the question of date to that of place. The distribution of the Aucissa *fibulae*, as I have said, is perplexingly wide and affords no certain clue.³ *A priori* we might argue that bronze objects of the period in question are more likely to have been made in Italy and exported to Gaul, than made in Gaul or on the Rhine and exported to Italy. Instances are well enough known of bronze work made in Italy, stamped with Italian makers' names and exported to Northern and Western Europe; it may be sufficient in passing to refer to the *paterae* of the Cipii and Ansii made in Campania.⁴ But instances of export

¹ One specimen, in the Ashmolean, is said to have been found at Gloucester with coins of Tiberius and Antonia Drusi, but the exact facts are doubtful (James Douglas, *Nenia Britannica* (London, 1793), p. 133, plate xxvi).

² Compare such specimens as those in *Bonner Jahrbücher*, 101, pl. IV. fig. 4, 5, 15, 18. Hildebrand and Montelius both connect the Aucissa type with the Certosa and la Tène group of *fibulae* (*Antiquarisk Tidskrift för Sverige*, vi.

189, viii), but one wants to limit the field more narrowly than this.

³ Tischler remarks that the wide distribution of these *fibulae* suggests export from Italy. But it might equally well be argued that the Danube provides an easy route from eastern Gaul to the Black Sea and the Caucasus.

⁴ C.I.L. X. 8071, 8072; H. Willers, *Die römischen Bronzeimer von Hemmoor*; *Archaeological Journal*, XLIX. (1892), 228.

from Gaul into Italy are much harder to find. In agreement with this *a priori* probability is the fact that about half the recorded examples of the inscribed "Aucissa" type have been found in Italy, while less than a third can be assigned to Celtic lands, Gaul and Britain. And as Tischler observed, the type of *fibula* to which the Aucissa specimens belong, is not particularly like any early Celtic type; though, for that matter, it is not very much more like any early Italian type.

On the other hand, the name Aucissa appears to be Gaulish, or at least Celtic. It has been called Etruscan or Etrusco-Roman, but names in *-issa* do not occur in Etruscan,¹ while in Latin they first appear in the Romance period and then only as feminines. On the contrary, they are common, as masculines, in Gaul and in the Celtic lands of Central Europe.² The first part of the name is also explicable as Celtic, since names beginning with Auc- and Auci- are not uncommon in Gaul, and the whole name, Aucissa, seems to occur on a broken piece of "Samian" found in Paris about a hundred years ago.³

Moreover, a Gaulish *fibula*-maker is no novelty. The Gauls are well-known to have been skilful in the manufacture of small metal objects like *fibulae*, and we can point to definite traces of actual work in *fibulae*, which constitute a good parallel to Aucissa. Mowat has recorded in the *Bulletin épigraphique*⁴ about a score of names inscribed on *fibulae* found in Gaul. They are obviously makers' names and, while about half of them are ordinary Roman names, about half of them are Gaulish names, Accu, Atrectos, Boduos,

¹ There was in Etruscan a large class of names in *-isa*, but these seem to be feminine genitives (or the equivalent thereof). It is conceivable that one of these might have been transliterated into a Latin nominative in *-issa*, but no instance of such a change seems to exist. I do not think the forms Pabassa, Hanossa, Gargossa, in Pauli's *Corpus Inscr. Etrusc.*, 832, 1295 and 1955, are adequate parallels, as they seem to be Etruscan genitives, not Latin nominatives. Nor does any such name as *Auc-isa or *Aug-isa seem to occur in Etruscan.

² Holder, *Sprachschatz*, s.v. *-issa*; Indices to C.I.L. III. etc.

³ Grivaud de la Vincelle, *Antiquités gauloises et romaines recueillies dans les jardins du palais du sénat* (Paris, 1807), pl. VII. fig. 97, but with no reference to it in the text. The fragment is broken at the beginning and reads ∞ CISSA, but there seems no real doubt that the name is Aucis-a. From Grivaud, Schuermans *Sigles*, 630; *Bulletin épigraphique*, II. 120; C.I.L. XII. 10010, 219. The object is apparently lost.

⁴ III. 261; IV. 31, 116, Plates. Compare *Bulletin de la Soc. des Antiquaires de France*, 1883, 291.

Carillus, Durnacus, Iovincillus, Iulios Avo, Litugenus, Nertomarus and the like. The *fibulae* which bear these names vary in character, but some belong to the Aucissa type, as for instance, the *fibula* of Durnacus, which I here reproduce from M. Mowat's article (fig. 9). Now these names are not only Gaulish, but most of them occur only in Gaul; they do not belong to any eastern Celtic district in Central Europe. And it is to be added that the whole practice of placing makers' names, whether Gaulish or Roman, on *fibulae* seems especially Gaulish. That country has yielded the largest number of recorded

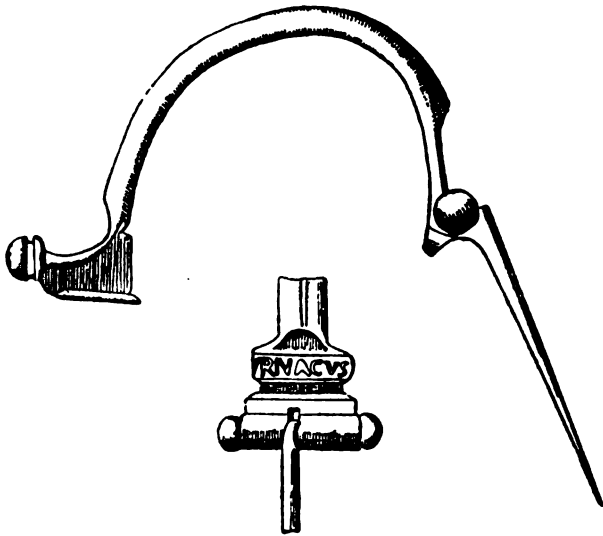


FIG. 9.—FOUND AT NAIX, FRANCE.

fibulae thus inscribed. In other provinces the inscribed *fibulae* are generally of a different kind; they bear such inscriptions as *Constanti vivas* or *utere felix*, and they usually belong to a far later date than that which we have assigned to the Aucissa species.¹ It is possible that we should go on to trace some connexion between the practice of stamping "Samian" ware made in Gaul, and the practice, a much rarer practice, of stamping

¹ For example, a silver *fibula* marked >VTERE FELIX< was found in 1858 at Selce near Djakovo in Slavonia in a grave, along with a lamp, bronze vase,

and coins of Constantine and Licinianus, S. Ljubić, *Inscriptiones quae Zagrabiae asservantur* (Zagrabiae, 1896), 69.

fibulae made in Gaul. But the Gaulish potters copied an Etruscan fashion, and the Gaulish *fibula*-makers might have done the same, so that the argument is not much advanced by such a consideration. On the whole, the balance of direct and indirect evidence favours the view that the *fibulae* stamped with the name Aucissa were made in Gaul, or at least copied from Aucissa *fibulae* made in Gaul. It does not follow that the uninscribed *fibulae* of the same type were Gaulish or that the type had a Gaulish origin. In deciding these questions, caution will be desirable, and until further evidence be discovered, the verdict may be reserved.

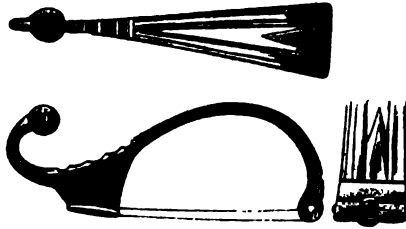


FIG. 10.—FOUND NEAR CHIUSI, ITALY. (Two-thirds size.)

A ROMAN LIGHTHOUSE.

By TALFOURD ELY, M.A., F.S.A.¹

The Greeks were fine builders, excelling in accurate workmanship as exemplified in the exquisitely fitted masonry of the Parthenon. The Romans had to provide larger edifices involving difficulties as to time and cost; hence the habitual use of concrete and the employment of the arch to bridge wide spaces.

Yet their materials, if inferior, as brick and concrete in place of stone and marble, were most carefully prepared. A proof of this is the striking permanence of Roman concrete and mortar, due in great measure to good mixing, as well as to judicious choice of ingredients. A very limited use of coal, and a corresponding limitation in the employment of iron, must have fettered the powers of the ancient architect, and still more those of the engineer.

In the various departments of physical science especially, the civilisation of the classic world undoubtedly stood far behind that of our own times; and we cannot suppose that the Greeks and Romans, even in their palmiest days, could provide against the dangers of navigation by any such series of warning beacons as now girdles our own shores.

Lighthouses of a kind, however, they certainly had, as we should know from evidence both literary and monumental, even if there were no remains of the actual buildings themselves.

Homer's² comparison of the flash from the shield of Achilles to the gleam from the lonely mountain watch-fire borne over the deep to storm-tossed sailors, can hardly be pressed into our service.

But later Greek writers, as Strabo,³ tell us of the many-storied tower so skilfully constructed for the Ptolemies

¹ Read at the Monthly Meeting of the Institute on 6th May, 1903.

² *Iliad*, XIX. 375.

³ Section 791. See also Lucan, IX. 1004; and Lucian, *Quomodo Historia sit conscribenda*, 62.

by Sostratus of Cnidos, at Alexandria, on the island Pharos, whence it derived its name, and handed that name down to later beacons. This tower was devoted, as an inscription on it declared, to the preservation of seafarers. Its cost, eight hundred talents, may be explained partly by its size, partly by its material, white marble. Caesar, who was not given to exaggeration, pronounces it to be *turris magna altitudine, mirificis operibus exstructa*.¹

Pliny² describes its use, and adds that similar lights were kindled in several places, instancing Ostia and Ravenna. Strabo³ tells us it had many stories. Herodian⁴ compares the funeral pile of a Roman Emperor⁵ to lighthouses, as being constructed with stories diminishing from below, a feature common to existing beacon towers of Roman origin.

Among the omens immediately preceding the death of Tiberius, Suetonius mentions the fall of a pharos at Capreae in consequence of an earthquake.⁶

The *Peutingeriana Tabula Itineraria* contains three coloured representations of lighthouses; one (in segment IV) isolated, at the mouth of the Tiber;⁷ the second (in segment VIII.) at Alexandria, a yellow building with arches, through one of which flows water, the summit being crowned by a red ball with yellow indications of flames; the third is a similar but smaller edifice, opposite Constantinople, marked "Chrisoppolis" [*sic*].

If literary evidence as to the subject of our enquiry be but scanty, as we must perforce confess, it may be eked out by the testimony of coins and other works of art, such as the lamp engraved in Bellori's *Le antiche Lucerne* (III. 12), representing a pharos with two diminishing stories above the ground floor, and a flame rising from the top.

In the collection of coins at the British Museum, there are at least four specimens illustrative of ancient light-

¹ *Civil War*, III. 112.

² *Nat. Hist.* XX XVI. 83.

³ XVII. 791.

⁴ IV. 2, 8.

⁵ Representations of the funeral pile may be seen on coins, *e.g.* that of

Severus. See Cohen, *Description historique des monnaies*, IV. 12, No. 89.

⁶ *Tiberius*, 74. This pharos seems to have been rebuilt, for it is mentioned in the *Silvae* of Statius, III. 5, 100.

⁷ See Dio Cassius, LX. 11: Valerius, Flaccus, VII. 84: Juvenal, XII. 76.

houses ; and of these, through the courtesy of Mr. Grueber, I am enabled to exhibit casts.

One of the casts is taken from a medallion of Commodus, struck to commemorate his safe arrival in the harbour at the mouth of the Tiber ; the lighthouse being depicted with three floors, each of the two upper stories containing less area than the one below. From the summit rises a large flame.¹ A second cast, from a "large brass" of Severus, belongs to Abydos, and is merely a fancy sketch of Hero lighting Leander across the Hellespont.² The remaining two casts are from *denarii* of Sextus Pompeius, representing the pharos of Messina, in commemoration of a naval victory. Here there is no apparent division of the tower into separate stories. Both *denarii* are figured in Babelon's *Monnaies de la Republique Romaine*.³

A relief in the Museo Torlonia (Baumeister, *Denkmäler*, fig. 1688) shows the beacon lighting the harbour at the mouth of the Tiber, a mass of flame issuing from the summit of a tower with several stories each of less diameter than the one beneath.

Of the actual lighthouses of antiquity the remains still left to us are naturally few and far between : *perierunt etiam ruinae*.

As to the parent of all, the lofty tower raised by Sostratus to guide the course of those luxurious galleys that ministered to the pride of a Ptolemy, modern travellers are silent.

The famous harbour of a more classic age, the Piraeus, was without doubt well provided with beacons for the cornships and the triremes of Athens. An American scholar, Mr. A. C. Merriam,⁴ speaks indeed of three lighthouses at the Piraeus, partly relying on the testimony of certain inscriptions ; but I must confess to some difficulty in following his argument.⁵

At Corunna, to the east of the bay of Orzan, on a rock about 120 metres high, stands a tower, known locally as *Torre de Hercules*, the lower part of which dates in all

¹ Cohen, III. 357, No. 995.

² Baumeister, *Denkmäler*, 962.

³ II. 352-3, Nos. 22 and 23.

⁴ *Telegraphing among the Ancients*, 14, 15.

⁵ See Foucart, *Bull. de Corr. Hellén*, 1887, 140, who thinks *σημαίον* is a rock.

probability from the times of Augustus.¹ This seems to have served as a beacon.

Among Caligula's mad freaks, there was one useful result of the war which he declared against Ocean, or rather the British Channel. To commemorate his imaginary victory he caused a lofty tower to be built, from which as a Pharos flames should flash forth by night to guide the course of ships.² This must have been the "Tour d'Odre" (or d'Ordre) at Boulogne, an octagonal tower, about 124 feet high, rising in twelve stages, which diminished gradually from base to summit. Among English sailors it went by the name of "The Old Man."³ Of this tower, which was destroyed in 1644, a representation is given in Montfaucon's *L'antiquité expliquée*,⁴ from a drawing made before that date.

Those who have stood upon the massive platform within the great fortress of Richborough will understand that provision may have been there made for the erection of a great beacon, which could also have served (as Mr. Fox has remarked)⁵ for transmitting signals to *Regulbium*.

At Reedham, opposite Burgh Castle (*Gariannonum*), "the foundation of a Pharos, or watch-tower," is said to have been laid open early in the last century.⁶

It is to Dover, however, that we must turn for a well-known example of a Roman lighthouse. Within the precincts of Dover Castle, in close proximity to the ancient church of St. Mary-within-the-castle (itself formed in great part of Roman materials) still stands the Roman Pharos, which Stukeley believed "the most perfect of any left."⁷

A later historian, Mr. Puckle, considers the basement only to be of Roman work, and the octagon above to belong to Tudor times; but adds that the Pharos "has enough of the substratum of the fabric left to afford a hint of its

¹ Baedeker, *Espagne et Portugal*, 181.

² Suetonius, *De Vita Caesarum*, IV. 46. From the letters C.C.P.F. antiquarian ingenuity has evolved *Caius Caligula Pharum Fecit*.

³ Puckle, *The Church and Fortress of Dover Castle*, 10.

⁴ Supplement, T. IV. plate L. 133. It is also shown in the engraving of one of the lost Cowdray pictures, that

of the Departure of Henry VIII. from Calais, published by the Society of Antiquaries.

⁵ *Archaeological Journal*, LIII. (1896), 363.

⁶ *Archaeologia*, XXIII. 364.

⁷ *Itinerarium Curiosum* (Second edition, 1776), *Iter V.* p. 129. Plates 46-48 show the Pharos. See also Lieutenant Peck's *Notes in Archaeologia*, XLV.

original form of structure. It is still a massive shell; the inner face of its walls vertical and squared, the outside showing tendency to a conical form.”¹ Important as *Dubrae* undoubtedly was, it seems strange that it should have required *two* lighthouses. Yet, according to Stukeley, “on the other high cliff opposite to this, beyond the town, has been another Pharos; some part of the bottom part of it is still left, called The Devil’s Drop, from the strength of the mortar; others call it Bredonstone. Here the new constable of the castle is sworn.”²

Mr. Puckle too speaks of two lights, remarking that “if the lower part of the Pharos represents one, the foundation lately uncovered in excavating for the Western Redoubt probably represents the other.” The materials of the latter, he adds, “are exactly like those of the eastern Pharos.”³

Montfaucon also alludes to this “*goutte*” in connection with the Tour d’Odre; a passage from which it appears that the tower of the church of St. Mary-within-the-castle had been at one time supposed to represent the Roman Pharos on the eastern cliff.

We might reasonably look for vestiges of such beacons at Reculvers, or in the Isle of Wight, or other portions of our coasts known to have been visited by the Romans, though no such general pilgrimage has been entered upon by me. A few years ago, however, I undertook to read right through the four thousand closely printed columns of the *Dictionary of Greek and Roman Antiquities*. There among many things never known to me and many forgotten, I came across the mention of a Roman lighthouse on the southern shore of the Dee.

Of this, as it appeared in Pennant’s time, we have an interesting description in his *History of the Parishes of Whiteford and Holywell* (pp. 111–113), which, being accompanied by an engraving, is of great value as throwing light on the problem concerning modern restorations. It may be well to quote this description at length.

¹ *The Church and Fortress of Dover Castle*, p. 9.

² Stukeley, *op. cit.* p. 130, *notet*.

³ Puckle, *op. cit.* 7. See Edward Knocker, *An account of the Grand*

Court of Shepway, Holden on the Bredenstone Hill at Dover, 47–50. The “*Ara Caesaris*” or Bredenstone is represented as a vignette on p. 41.

“ The next township to the village is in *Whitford Garn*. In this township is *Garreg*, or *The Rock*, the highest land in the parish ; it is a large inclosed hill, the property of Sir *Roger Mostyn*. Part of it is a fine turf, and excellent sheep-walk ; the summit, and part of the sides, rocky. From *Whiteford* to the top is a continual ascent. From this height the traveller may have an august foresight of the lofty tract of *Snowdon*, from the crooked *Moel Shabog*, at one end, to the towering *Pen-maen-mawr* at the other ; of the vast promontory of *Llandudno*, and part of the isle of *Anglesea*, with the great bay of *Llanddulas*, forming an extensive crescent ; the estuaries of the *Dee* and the *Mersey* ; and to the *North* (at times) the isle of *Man* and the *Cumberland Alps*, the frequent presages of bad weather.

“ The *Romans* took advantage of this elevated situation, and placed on its summit a *Pharos*, to conduct the navigators to and from *Deva*, along the difficult channel of the *Seteia Portus*. The building is still remaining. It is tolerably entire ; its form is circular ; the inner diameter twelve feet and a half ; the thickness of the walls four feet four inches. The doors, or entrances, are opposite to each other ; over each is a square funnel, like a chimney, which opens on the outside, about half-way up the building. On each side is a window. About four feet from the ground are three circular holes, lined with mortar, as is frequent in *Roman* buildings ; and penetrate the whole wall, for purposes now unknown.

“ *WITHINSIDE* are the vestiges of a stair-case, which led to the floors, of which there appear to have been two. Along such part of the upper, which was conspicuous from the channel, are eight small square openings, cased with free-stone (the rest of the building being of rude limestone, bedded in hard mortar) and each of these were separated by wooden pannels, placed in deep grooves, the last still in a perfect state. In each of these partitions were placed the lights, which the *Romans* thought necessary to keep distinct, or to prevent from running into one, lest they should be mistaken by seamen for a star. *Periculum in corrivatione ignium, ne sidus existimetur.*

“ To the building is very evidently a broad and

raised road, pointing from the east; and near its upper end are the marks of a trench, which surrounded and gave protection to this useful edifice. It certainly had in later times been repaired, or perhaps applied to some other use, for in one part is a piece of timber which could not have been aboriginal."

In 1900, and again in 1901, I walked over to Garreg from Holywell, and carefully examined the exterior of the building, which, however, I could not enter as the door was locked.

I then had some correspondence and an interview with the owner of the property, Lord Mostyn; and in June, 1902, by his permission I examined the interior of the tower, but found no trace of an ancient staircase. The "vestiges" seen by Pennant may have been sacrificed in restoration, or (as at present) the means of access to the upper floors may have consisted simply of a wooden ladder.

The thickness of the wall on the ground floor, at least 4 feet, was ascertained by measuring the two port holes which remain open throughout at a height of about 5 feet from the present surface of the ground. They look east and west. A third is partly blocked. They are rounded, and measure from 9 to 11 inches across.¹

The height of the first floor is about 8 feet, and is marked by the slight setting back of the wall, corresponding to a similar diminution of thickness outside.

This floor has two windows looking north over the Dee, their sills being about 12 feet from the ground.

The top story has a modern wooden floor 14 feet in diameter. The battlements and great part of the wall are also modern. The three embrasures, 2 feet thick, are, however, probably original, as are certainly their outer sills of stone, each containing two diamond-shaped sockets, perhaps with a view to the division of the lights to

¹ In his notes on the Roman Pharos in Dover Castle (*Archæologia*, XLV. p. 333) Lieutenant Peck remarks, "with a view perhaps of drying the mass a number of airholes are carried through at regular intervals." The Rev. W. Bingley, in *Excursions in North Wales*, writes of a Roman fort near Carnarvon,

"Along these walls there are three parallel rows of circular holes, each nearly three inches in diameter, which pass through the entire thickness"; adding that they may have been intended "to bear the horizontal poles for resting the scaffolding upon, necessary in the building of the fabric."

prevent its being mistaken for a star, a danger referred to by Pliny.¹

These three embrasures are much smaller than the two windows of the first floor.

The building stands on the summit of Garreg Hill, and commands a splendid view over the estuary of the Dee. Its general appearance is that of a martello tower, but it is composed entirely of stones bedded in mortar. The "Jubilee" restorations comprise the crowning of the top of the building with battlements, and the filling up of the two large gaps in the lower portion, one of which is shown by Pennant. In place of the southern gap is the modern entrance closed by a door, the key of which is in Lord Mostyn's possession.

If we consider the side nearest the Dee to represent, roughly speaking, the north, there was on the north-west a doorway, now blocked up. The outside, like the interior, is divided into three stages, the wall of the upper two being slightly set back.

There is no trace of windows on the southern side. On the north there are still three at the top and two in the middle division, the more westerly of these two being over the closed doorway.

Lord Mostyn informed me that some had suggested that the tower had been a windmill; others that it had been built as a summer retreat for an abbot.

He himself, however, agreed with me in maintaining that it was originally a Roman lighthouse.

It seems to me unlikely that mediæval monks would have troubled themselves to erect such a building on the top of a high hill, far from water and other necessities, when they might have had a much more comfortable residence lower down the slopes. Again, the thickness of the wall and the want of space within are inexplicable on the theory that we are dealing with an ordinary dwelling. But such thickness of wall would be a reasonable provision to meet the great weight of iron and timber required for an effective beacon.

It is true that no Roman bricks are to be seen in the structure; they would, however, hardly be required when

¹ *Nat. Hist.* XXXVI. 83; "Periculum in continuatione ignium, ne sidus existimetur, quoniam e longinquo similis flammæ aspectus est."

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A ROMAN LIGHTHOUSE AT GARREG, ON THE DEE.

excellent building stone was ready to hand ; and the method of construction with diminishing girth is paralleled by that of the admittedly Roman lighthouse still in existence at Dover, and the lighthouse represented on the medallion of Commodus,¹ on the Torlonia relief, and on Bellori's lamp. Another example was furnished by the Tour d'Odre.²

It is of course quite possible that in later ages a Roman beacon tower may have been utilised for a windmill or for other purposes ; but the several apertures facing the water accord well with the subdivision of the light referred to by Pliny, and I believe that on Garreg Hill we have a rare example of the survival of a genuine lighthouse dating from those early days when this country was governed by the lieutenants of Imperial Rome.

For the accompanying illustration I am indebted to Mr. Robert Newstead, curator of the Grosvenor Museum, Chester.

¹ See above.

² See also Renard, *Les Phares*.

ON SOME BURIED BUILDINGS WITH SPECIAL REFERENCE TO HERCULANEUM.

By PROFESSOR T. MCKENNY HUGHES, M.A., F.R.S., F.S.A.¹

There is a great deal of exploration going on on sites of historic interest, and I have thought that a small contribution from the point of view of *the burying up* may not be wholly without use and interest at the present time, either to those who are engaged in the fascinating work of unearthing the buried records of remote ages, or to those who, though they have not the opportunity of taking an active part in the work, are watching with interest the results achieved.

There are many agencies which tend to bury all traces of ancient dwellings, or monuments, or cities. When you excavate in Nineveh, Jerusalem, Athens, Rome, or London, you find foundations and chambers, often buried in mortar and brick and stone and masses of ruined walls, but the greater part of the material you have to dig out in most cases is earth; sometimes a rich humus full of organic matter, sometimes fine dust and sand almost entirely of mineral composition.

There are many different ways in which forests, and dwelling houses, and churches, and cities get buried, and the amount and kind of destruction depends upon the mode of interment.

A heavy fall of feathery snow lodging on the branches of a tree may by its accumulated weight break it down, while fine drifting snow creeps round it and up the stem, and leaves its branches unbroken. The flow of molten lava burns everything and crushes the strongest buildings in its path, but gently falling volcanic dust, where it does not break down the roofs by its weight, insinuates itself through the smallest hole or crevice, like the sand in an hour glass, and fills up the rooms and every cranny and corner in them.

¹ Read at the Monthly Meeting of the Institute on 4th June, 1903.

Careful observations of the condition of buried forests, buried dwellings, buried churches, and buried cities teach us what to expect as the result of the various modes of entombment, and what steps to take with a view to the discovery and preservation of what remains.

If we are examining a buried forest we first note whether the trees are broken off or uprooted, whether they lie in different directions and at various levels, or whether they have all fallen together towards the same point of the compass. It is by such observations that you can tell the story of the forest destruction. If the trees are lying in all directions and at different levels you read the history of continuous renewal till the conditions become unfavourable for further growth. You find the traces of forest animals which lived and died in it, and you seek the causes and circumstances of its final destruction. If the last of the trees all lie in one direction you know that it was a catastrophe of some kind ; a storm caught a weak place and down they went like ninepins. If the trees are broken near their base you know that the roots held fast till the gusts caught the swaying stems at a disadvantage and snapped them off, for every tree has its play. If the trees have been torn up by their roots you infer that these had no hold in the spongy, sodden soil, and that they were besides probably beginning to rot ; and perhaps you may find other proof that the area was liable to floods. The mud settling out of flood waters, or the growth of peat over the swampy ground, buried all up and preserved the record for us.

Similar methods have to be applied to the investigation of buried dwellings or churches, or cities. We must examine the remains to learn how they were overwhelmed, whether by a sudden catastrophe or by slow waste ; whether by storm, or fire, or war ; or by desertion, decay, and the re-occupation of the ground by man seeking in the old ruins material for new works.

We are guided at each step of our search by the knowledge we have already gained as to the manner of entombment and the consequent probable mode of occurrence of the remains.

The gradual operations of nature frequently result in local catastrophes. Every here and there around the

coast of England, and, more obviously, along the west coast of France, tidal bars and sand-dunes cross the mouths of rivers, deflecting the outfall in the direction of the prevalent winds and currents, and cutting off behind them low ground, which is converted into a swamp by the upland waters. Here peat and, later on, forests of birch and fir-trees grow.

But, in the gradual waste of the coast, protecting promontories are cut away, banks that broke the violence of the waves are shifted, and some storm at length bursts through the sand-banks, and the peat and forest are over-run by the waves at every tide. If the area is subsiding the effect is intensified and the results increased with time. But it is not safe to say that every so-called submerged forest, that is a forest now over-run by the tide, is evidence of a subsidence of land.

There are many local legends that palaces and cities are buried beneath the sea and have been seen, or may still be seen at times through the clear water.

There is a heap of stones said to be the ruins of a palace off the coast of North Wales, and there is a ridge of hard rock running out under the sea near Aberystwith, which is called a *sarn* or paved road. The name "*Cantref gwaelod*" is probably responsible for the story that a hundred towns are sunk beneath the waves in Cardigan Bay, but although it is true that *cant* means a hundred and *tref* means a town, we must remember that "*cantref*" is the word commonly used for the territorial division known as a "hundred" in English, and "*gwaelod*" does not necessarily mean the bottom of the sea, but may refer to the bottom of a valley, or the low ground generally. It is impossible that subsidence to such an extent as to have buried a hundred cities beneath the sea can have taken place here in any recent period, but it may well be that the sea has encroached on a considerable tract of the bottom land on the coast of Cardiganshire, within a period not too remote to have been caught by tradition.

It is where the relics have been suddenly covered up that we may expect, if the conditions for preservation were favourable, to find the most perfect records of the past. If we could find a city submerged beneath the sea in an area of rapid accumulation, and if in consequence of

its being again upheaved, or in some other way, we could get access to it, we should find a fossil worth studying.

Portions of the shore of the Bay of Baiae or, as it is now called, Baia, were thus submerged and lifted up again, and the holes made by lithodomous molluscs in the columns of the temple of Jupiter Serapis clearly tell the story. But this was an earthquake effect, and how much destruction took place in the earthquake, of which this movement was one of the accompaniments, we cannot tell. Moreover the upheaved ruins have been long exposed to the still more destructive agency of man, who carried out mediaeval works with the material brought together by the Romans.

The action of earthquakes in destroying the records of the past must be taken account of, especially along the northern and eastern coasts of the Mediterranean, towards which our thoughts chiefly turn when we think of excavations in search of evidence bearing upon the history of the most interesting peoples of the past.

The story of C. T. Newton's discovery of the ruins of Halicarnassus is of thrilling interest, and shows how important considerations of this kind may become in such researches. It had been the dream of his Oxford life to find the tomb of Mausolus. The descriptions given by classic authors were sufficiently precise to make him think that they could be certainly recognised if found. His opportunity came at last; he was made Vice-Consul at Mytilene, and a gunboat was placed at his disposal to enable him to explore the coast. He shrewdly inferred that in that region of earthquakes a building such as the Mausoleum, perched, as it was said to have been, on the summit of a hill, would under repeated shocks have crumbled down, and that its remains would be found at the foot of the slope. So it was, but the point to which I wish to call attention is that with the exception of a few fragments built into cottages, etc. the ruins were all buried under a thick covering of soil, the result of rainwash, of soil creep, and of earthquake shocks. It was his study of the physical geography and natural phenomena which led him to infer what must have been the manner of destruction and consequent mode of occurrence of ruins in such a country, and thus guided his research.

He bought an olive tree on the flank of the hill, dug it up, and found the *débris* of ancient buildings in the soil which was creeping down. This confirmed his inferences, but it also convinced the proprietor that Newton was mad, and he refused to sell him any more.

However, Newton persuaded the Government to acquire the whole olive-yard, and made the grand discoveries of which the results may now be studied in London.

Layard¹ says that he sometimes found the ruins of Nineveh covered to a depth of 20 feet by fine sand and dust blown from off the plains and mixed with decayed vegetable matter.

Burrowing animals of all kinds disturb and mix up buried objects often of very different age; and Darwin² has shown how earthworms bring up finer material from below, distributing it through the interstitial spaces in the ruins, and heaping it over the surface. It may be that tessellated pavements have in some cases been thus undermined and the regularity and flatness of the surface destroyed, but there must be other agents, such as settlements and soil creep, which throw the surface into folds. The concrete on which the *tesserae* are laid is generally too strong and thick, and the *tesserae* too close together, to allow the earthworms to get through, and there are moreover examples of undulating mosaic floors, such as that in St. Mark's in Venice, where earthworms can have played no part in producing the irregularities.

When a city, which has been wholly or partly ruined, is reoccupied, all the building stones that are left at or near the surface are used again, and only the earth and finer materials are left, but, where the site is deserted, nature soon covers up everything with a mantle of soil and vegetation. This is due to the constant operation of the wind and other agencies.

There are certain geographical conditions, however, which make the wind catastrophic in its action. I am not now referring to its devastating effects, such as I mentioned when speaking of the destruction of forests, or the sudden inroads of the sea and changes of the coast

¹ *Ninereh and its Remains.*

² Darwin. *Transactions of the Geological Society*, 2nd. s. v. (1840),

505: "The Formation of Vegetable Mould through the action of Worms, 1883."

line caused by storms, but to its transporting power and its action in burying everything under an accumulation of dust and sand. The church of Perranzabuloe in Cornwall had been covered for ages by sand, when some changes in the surface configuration, and the continuance of the wind in one direction for an unwonted time, lifted the sand and again exposed the ancient edifice in exactly the same condition as that in which it was when buried.

The Culbin Sands near Nairn furnish very interesting examples of the mode of accumulation of sand dunes. These hills are not ridges travelling on, but are mounds shifting to and fro with the eddying gusts. Now and then, of course, a long continued dry wind will blow the sand so that the whole result is to carry it forward more in one direction than another and encroach upon the cultivated country, but still the effect of the swirl is seen where the wind is confined between the hummocks. The sand is lifted up in small whirlwinds and urged along the narrow gullies, but the heavier bodies, which have got on to the sand dunes by natural agencies or by accidental transport, drop into the hollows and, eventually, all work their way down to the very bottom, to be covered by the shifting dunes and again exposed in future ages. Any one who had not studied the growth and shifting of sand dunes might well be puzzled to explain the occurrence of beautifully dressed flint arrow-heads and coins of Charles I. together in the same stratum exposed at the very base of the Culbin Sands by some sudden and exceptional storm. The dwellers in those parts watch with interest for the uncovering of the old manor house which was buried some two centuries ago, and has ever since remained covered by an enormous mound of sand.

What has been and is taking place in the Culbin Sands must from the nature of the case have been and still be going on in any region where sand is moving with the shifting winds, and the observations made near home may well be borne in mind by those who are excavating in the sands of Egypt or of Mesopotamia, or the dust of the Mediterranean shores and islands.

Of the various natural agents which suddenly bury cities, and preserve the records of what was going on, and

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what had been when the catastrophe occurred, volcanic outbursts are the most important.

The results of volcanic eruption are manifold, but the sequence of causation is pretty simple and constant.

As one of the effects of the crumpling of the earth's surface, the rocky crust cracks, and we feel the vibrations at the surface. This is the earthquake stage.

The fissure thus formed extends down to great depths, where the temperature is so high that the rocks would all be molten were it not for the enormous pressure upon them. But, when this pressure is relieved by the breaking of the rocks above, the highly heated masses fly into a molten state, and well up through the fissure to the surface. This is the lava stage.

When this lava gets near the surface, repressed gases are given off, and the water of springs, rivers, lakes, or seas gets down into the heated rock and is immediately converted into steam, and then comes the most noisy accompaniment of volcanic eruptions. Explosions occur, and masses of lava, or of the rock through which the lava is rising, are shot out and blown to pieces, or reduced to dust by trituration. These fragments are hurled to great heights, and being caught by the upper currents of air, are carried along and showered down over the country far and near, according to their relative size and weight. The steam too is condensed when cooled in the upper regions of the atmosphere, and falls in torrents of rain which flood all the lower ground and sweep everything before them. This is the explosion stage.

When the period of violent activity is passing away, but the rocks beneath are still hot enough to drive off the gases and raise the water to boiling point, the heated water acts on the rocks and dissolves the silica and other minerals, and we see the effect in the altered rocks of a volcanic area in which the fires are dying out, as, for instance, in the bleached rhyolites of the gorge of the Yellowstone river, in the mud volcanoes, and in the geysers, and jets of steam and gas that issue from the deeper fissures. This is the *fumarole* stage.

Thus volcanic regions are apt to be also earthquake regions, but as along lines of weakness caused by fissures the relief comes quickly, the flanks of volcanoes are often

not more subject to violent earthquake shocks than districts more remote from centres of eruptions.

For our present enquiry we have therefore to note that these various phenomena do not occur simultaneously, but are successive stages in the development of volcanic activity, and that the remains of a city may be buried under the ruins of what has been shaken down by earthquake shocks; or it may be covered by a mass of lava, or of dry dust and cinders, but that it is most improbable that it can be overwhelmed by boiling mud poured forth when the crater has become as it were a geyser and volcano in one, though it may often be plastered down by cement, formed by rainwash when torrential rains such as usually accompany volcanic eruptions have carried the dust and *scoriae* from the slopes to lower levels; or one part may be buried under one kind of deposit and another part under other products of the same, or of a different period of volcanic activity.

Mud flows of any great extent are from the nature of the case unusual accompaniments of volcanic eruptions. They belong to the last stage of activity when the volcanic fires are dying out. For our present purpose it is most important to have a clear idea of their mode of formation.

When the rocks have been mechanically and chemically disintegrated, and the intermittent action, such as causes geysers, has churned up the flour of rock which has been thus produced, with the hot water in the deep-seated rocks, mud is forced out through the fissure instead of water; when the steam is given off it ceases to rise and what is left sinks back into the vent hole.

One of these mud volcanoes may be seen in operation in the geyser district, a few miles from the Yellowstone Lake at the north end of the Rocky Mountains, and a more awe-inspiring phenomenon it has never fallen to my lot to witness. You stand on a narrow bank of grey clay; a slope of mud plunges steeply down in front of you into a black cave; all is mud, or mud-splashed lava. You feel that you could never climb out if any accident once pushed you over the rim into the slimy depths

below ; a feeling of dread comes over you, as you contemplate the horrible abyss.

All are impressed and silent, but soon the stillness is broken by deep sounds issuing from the cave, groans and hisses, sobs and suckings, and a viscous mass belching forth foul gases comes writhing forward in tongues of mud, feeling as it were like Victor Hugo's *pieuvre* for anything to envelop in its coils. Spluttering and slobbering it flings itself up the slope towards you, and then suddenly withdraws again into the depths of its grimy cavern.

In the earlier development of volcanic activity the violent outbursts clear the volcanic neck of water and loose material, and mud is not formed. It must be a very exceptional thing to have such an outburst of mud directly from the volcano as would overwhelm Herculaneum, for instance, in a mud-flow from Vesuvius.

We cannot expect to see much of a city over which a thick mass of molten lava has flowed, or of one buried in what has become a hard cement, but we may hope that many of the objects of every-day life will have been preserved uninjured, and that they can be easily exposed again if they have been gently covered up by showers of ash which was in such proportion as to allow the air to cool it down somewhat, instead of being so thick as to raise the surrounding air to scorching heat and keep up its own temperature, as was the case in the recent terrible eruptions in the West Indies where air and ash fell like fire on the ill-fated inhabitants.

Now let us turn to the towns of Herculaneum, Pompeii, Stabiae, and other places around Vesuvius to see what can be made out respecting the manner in which they were destroyed and buried.

Various writers had inferred from its similarity to Etna, as well as from tradition, and from the character of the rocks, that Vesuvius was of volcanic origin, but there is no record of its having been active within the historic period before the Christian era.

In 63 A.D. an earthquake destroyed a great part of Herculaneum and Pompeii, and those cities must have felt the earthquake which shook Naples so severely in the

following year, but all damage seems to have been repaired. Fifteen years later the great eruption occurred which destroyed Herculaneum, Pompeii, and Stabiae. There were earthquake shocks of considerable violence, as recorded by Pliny the younger, but an examination of the ruins does not lead us to infer that the obliteration of the towns was so much due to their being shaken down as to their being buried up. If we look round from the summit of Vesuvius, or examine a map of the site, we cannot but be struck by the even distribution of the material all round. The great cone has been heaped up by many accumulations of commensurate size and many outbursts of not greatly different intensity. The hollows left between adjacent flows guided denudation and caught subsequent rivers of molten rock. The sides are fluted by these troughs which have been left between the lava-flows of various age. Between two small valleys thus originally formed stood the town of Herculaneum, on a slight elevation near the sea west of the crater. At a somewhat greater distance south-east of the summit and altogether beyond the steeper mountain slopes, stood Pompeii. At Pompeii you may shovel away dry dust and expose frescoes and mosaics which look as bright and fresh as if newly painted. We do not find the upper parts of the buildings in ruin on the floors as if the houses had been shaken down and then covered by ash, but they must often have projected through the ash or risen too near the surface and have been removed since the catastrophe by builders seeking material, who often found it worth while to follow down the walls of ancient buildings to a great depth for the sake of the dressed stone of which they were constructed.

Pompeii was obviously buried in dry ashes. We cannot now exactly explain how the ash of the same eruption travelled south-east to Pompeii and Stabiae and west to Herculaneum and Misenum. The movements of Pliny's ships indicate a north-westerly or westerly wind below, but what we have recently heard of the dust being caught in upper currents in the eruptions in the West Indies and carried against the direction of the wind which was blowing near the ground, provides us with one explanation of this difficulty; and the account that, although the darkness was very great at Misenum, no large quantity of ash fell

there, seems to confirm the idea that heavy dustclouds were travelling to and fro in the upper currents of the atmosphere. However that may be, Pompeii was buried and still lies in dry ashes. Yet it would seem that the greater body of dust was carried west.

It has often been stated that Pompeii was buried under ash and Herculaneum under lava. But any one who examines the ruins can see that the excavations are not in true lava, that is, in rock which flowed out in a molten state, but in what the Italians call *lava d' acqua*, and we have now to consider what was its origin. It is not mud like that of a mud volcano, but is composed of the same material exactly as the ash, only it is consolidated into a hard rock.

There is no evidence on the ground that such a mud flow ever issued from Vesuvius. The *lava d' acqua* of that region is quite a different thing from the mud that issues from the mud volcano of the Yellowstone River-basin. The mud of the mud volcano is a homogeneous grey paste of very finely divided matter. The concrete in which so much of Herculaneum is buried is a fine speckly breccia of different coarseness and composition, and obviously a consolidated ash.

Now the fine ash of Pozzuoli, a place close by Naples, readily combines with water to form a cement which is known as Pozzuolana or Roman cement. The Trass or volcanic ash of the Brohlthal on the Rhine is used for the same purpose. If then torrents of rain from the condensed steam fell during the eruption of A.D. 79 they must have carried the dust and ash down the slopes into the two valleys out of which Herculaneum rose, and filled them and all the low-lying buildings and hollow places with what was really liquid Pozzuolana or Roman cement. The higher parts between the two valleys would be above the inundations, and probably have large areas buried under dust and ash which was not thoroughly wetted and would not get similarly consolidated.

The theatres of those days were often built with a view to the arrangement of seats for the spectators tier above tier, by taking advantage of rising ground behind, from which they could gain access to the upper seats. For this reason theatres are apt to be built on the low-

lying ground. The floor of the theatre at Herculaneum is 85 feet below the present surface of the ground, and the excavations have been carried down to the very base. An examination of the material which fills it amply confirms the view now put forward, for the ash contains fragments of brick and other material such as would be washed down the flooded streets ; and in the very lowest layer in the basement of the theatre my wife found fragments of Roman pottery.

Herculaneum was a smaller city than Pompeii. There are but few earlier notices of it ; from these, however, we may gather that although it changed rulers several times, there is no record of its having suffered any great destruction or desolation. It was a place of much greater wealth and refinement than Pompeii, and was becoming more and more popular as a residence for imperial and noble Romans. We might expect, therefore, to find here treasures of literature and art that would well repay the work of exploration, costly as that must be, seeing that the ruins are so deeply buried and so many of them run under the town of Resina. But a clear understanding of the reason of each difficulty helps to overcome it.

As Sir Charles Newton was guided in his search for the Mausoleum by the knowledge of the manner in which buildings crumble down the hill-slopes under the influence of frequent earthquakes and earth tremors, and as a knowledge of the mode of accumulation and the movements of blown sand explains the curious mixture of remains of very different age at the base of sand dunes, and teaches us what indications prepare us to look out for from the uncovering of long buried buildings, so a study of the conditions under which Herculaneum was entombed may enable us to select parts of the ancient city in which the objects are better preserved and easier of access than any of those yet explored. A careful survey with borings should be made to find where the heavy rain-wash filled up hollows and where dry ash fell gently over the rising ground.

THE KING'S PANTLER.

By J. H. ROUND, M.A.¹

"He was a fellow of some birth ; his father had been king's pantler." So writes Robert Louis Stevenson in his *François Villon*.² To the modern reader the phrase could hardly convey a meaning ; and yet it is one that is singularly rich, not merely in etymological, but in antiquarian interest. Ducange, indeed, in his learned disquisition, refers to Pharaoh's chief baker ; but, without taking the king's pantler so far back as this, we may claim him as the holder of a feudal office, the officer of the bread. I would bring before you as parallel two officers and their offices, in order that these may illustrate one another by the changes of name and meaning. The "butler" derived his name from the bottle, the "panneter" from the bread (*pain*). The office of the butler was the "butlery," now corrupted to "buttery ;" the office of the "panneter" was the "pannetry," now corrupted to "pantry." Here I use the word "office" in the double sense it still retains, namely, the function discharged by the officer and the place in which he discharged it.

It is possible to trace and account for the corruption and changes of meaning which these words have undergone. In the *Babees Book*, as in feudal records, the "l" of "pantler" is still absent ; "if thou be admitted," we there read, "in any office, as butler or panter."³ But a false analogy, it is thought, with "butler" produced the corruption "pantler." The fate of the words has been widely different ; for while "butler" survives in our daily life, unchanged and familiar, "pantler" has long been obsolete. With their offices, however, it is just the contrary ; for while the "butlery" lingers only in the "buttery hatch" of our college days, the "pantry" is a term of daily use ; it denotes, however, to modern ears the one

¹ Read at the Monthly Meeting of the Institute on the 4th June, 1903.

² I am indebted for this quotation to *The Century Dictionary*.

³ See note 2.

place where, certainly, we should not find the bread, but where, most paradoxically, we should probably find the butler.

And now we will return to early days when the Norman dukes possessed their *pannetier* in imitation of their suzerain lords, whose officer of that name was destined to become the "grand *pannetier de France*."¹ The evidence for the existence of the Norman *pannetrie* will be found in my "Calendar of documents preserved in France," where is printed the abstract of a charter of our King Henry II., granted in 1156 or 1157 to Odoïn de Mala Palude. Addressed to the Archbishop of Rouen and granted at Montfort, it confirms to Odoïn

the whole ministry of his *Panetaria*, with living in his court, every day that he is at Rouen, namely four pennyworth of bread from the *despensa*,² and one *sextaria* of knight's wine from the cellar, and four portions from the kitchen, one of them a large one, two of the size for knights, and one *dispensabile*. And Odoïn is to find the king bread in his court, and to reckon by tallies with his stewards (*dispensarius*) and with all his bakers, and he shall receive the money and give quittances to the bakers. And when he sends to Rouen for bread, Odoïn is to bring it at the king's cost, and every pack horse shall have twelve pence, and every pannier-bearing one six pence, and every basket-carrier a pennyworth of bread; if the bread is brought by water, the boatman shall have sixpence a journey; and Odoïn is to have all that is left of the bread of the *panetaria*, when the king makes a journey, and to have the charge of, and jurisdiction over, the king's bakers at Rouen and within the purlieus of Rouen, and all their forfeitures, and the weighing of bread, and all fines and forfeited bread, etc. . . . nor is anyone but Odo and his heirs to execute the jurisdiction of the *panetaria* or over the king's bakers, under penalty of ten pounds (p. 465).

I have quoted at this length from the charter in order to show that the *panetaria* at this early period was concerned, indeed exclusively concerned, with that bread from the name of which the word itself was formed. When we turn to the document known as the *Constitutio domus regis*, or organisation of our royal household, some twenty years earlier, we cannot, I think, identify a *panetarius* therein, but we do find an accountant of the bread, a *computator panis*, who must have reckoned by tallies with the bakers, as Odoïn was appointed to do in the above charter, and as pantlers always did in later days. And his mention is immediately followed by that

¹ This officer is dealt with at the end of my paper.

² This word is still preserved in some French institutions as *dépense*.

of the "four bakers," two of whom are allowed forty pence for purchasing a Rouen bushel (*modium Rothomagensen*) from which they have to turn out a certain number of loaves, according to the kind. Apart from the accountant and the bakers, a master spencer of the bread (*dispensator panis*) is mentioned; but I can find no mention of an actual "panneter" or "pantler."

For what may be termed the master pantler we must turn to the coronation rolls of later days; but before we do this, it may be well to mention a fact hitherto, perhaps, unknown. An inquisition after the death of William Maucluit, Earl of Warwick, taken in 1268, shows us Richard de Bosco holding in Chedworth, Gloucestershire, "by serjeanty of being the king's pantler for three feasts yearly." I cannot find this serjeanty mentioned in the *Liber Rubens* or the *Testa de Nevill*, and my reason for attaching importance to it is that the "three feasts" are clearly "the great annual courts," as Dr. Stubbs terms them, "held on the great Church festivals, Christmas, Easter, and Whitsuntide; generally at the great cities of Southern England, London, Winchester, and Gloucester. The king appeared wearing his crown; a special peace was maintained, necessarily, no doubt, in consequence of the multitude of armed retainers who attended the barons; and magnificent hospitality was accorded to all comers. 'Thrice a year,' says the chronicle, 'King William wore his crown every year that he was in England; at Easter he wore it at Winchester, at Pentecost at Westminster, and at Christmas at Gloucester. And at these times all the men of England were with him, archbishops, bishops, and abbots, earls, thegns, and knights.' A similar usage was observed by his sons . . . The cessation of the solemn courts under Stephen was regarded by Henry of Huntingdon as a fatal mark of national decline."¹ On these solemn feast-days the services of a "panneter" or "pantler" would, we shall find, be required, and I lay stress on this serjeant's association with the "three feasts," because it is thereby taken back to the days of our Norman kings. Henry the Second, it is true, revived in his first three years the

¹ *Constitutional History* (1874), I. 369; so, too, I. 268: "The king sat crowned three times in the year in

the old royal towns of Westminster, Winchester, and Gloucester."

holding of these solemn feasts; but "after 1158," in Dr. Stubbs' words, "he gave up the custom altogether."¹

The early existence of this serjeanty seems, therefore, clearly proved.

It is, as I have said, to coronation records that we have to turn for the office of the great "panneter" or "pantler," of which the first mention is more than thirty years earlier than that of the above serjeanty. At the coronation of Queen Eleanor, in 1236, the first great precedent for the coronation services, we read that Walter de Beauchamp, of "Haumlega," who holds from of old the office of panetry (*panetaria*), brought on the salt-cellar and knives, and did the pantry service that day, and after dinner received the knives and salt-cellar as his fee.² You will observe that though *panetaria* is the word used for the office here as in the charter of Henry II., there is nothing here about bread, with which that charter was exclusively concerned. Indeed, Mr. Wickham Legg tells us in his valuable book "that the office of the Panneter was to carry the salt-cellar and carving knives to the king's table; these, with the spoons, he receives as his fee."³ Of the bread Mr. Legg says nothing, doubtless because our coronation records make no mention of it in connexion with the panneter's office. But this I shall discuss below.

Meanwhile I may note that Mr. Legg tells us "that the office is filled by the Lord of the Manor of Kibworth-Beauchamp; this manor was held by the Beauchamps of Dumleye, and later by the Earls of Warwick."⁴ The corrupt and unmeaning name of "Dumleye" seems to come from the *Liber Regalis*, where it appears as "Dumelye,"⁵ while in the *Forma et Modus* it degenerates into "Duneleus."⁶ But in the original record, we have seen, it is "Haumlega," which represents Elmley Castle, the hereditary seat of that house of Beauchamp which inherited the Earldom of Warwick in 1268, on the death

¹ *Constitutional History*, I. 562.

² "Salarium (*sic*) et cultello apposit Walterus de Bello Campo de Haumlega cujus officium a veteri panetaria. Servivit autem eodem die de panetaria et sui sub se prandioque peracto cultellos et salarium tanquam de jure suo sibi

competencia recepit." (*Red Book of the Exchequer*.)

³ *English Coronation Records*, lxxvi.

⁴ *Ibid*.

⁵ *Ibid*. 108.

⁶ *Ibid*. 181.

of William Mauduit.¹ Elmley, as I have elsewhere shown,² had descended to them, like Kibworth, from the Domesday holder, Robert Despenser. Whether we may see in this a connection between his name and the spensership of the bread I will not attempt to say. But, in any case, it is always well to remember that any assertions of a connection between the right to a given office and the tenure of a certain manor require to be received with great caution.

Full information on the subject is found in Nichols's great work on Leicestershire, under Kibworth-Beauchamp.³

At the coronation of George II. the then holder of the manor, Sir William Halford, petitioned the Court of Claims (1728)⁴ "to be admitted to perform the office of great panneter on the day of the coronation of the king and queen, as being seised in fee of the manor of Kibworth-Beauchamp, in the county of Leicester; and to have allowance of the salt-cellars, knives, spoons, clothes and coverpane, together with the other fees and accustomed perquisites of that office." Nichols prints his counsel's arguments, and tells us that the Commissioners "disallowed the claim upon a presumption that if it had been just it would not have been so long continued," which last word is clearly an error for "discontinued." But he points out that the claimant suppressed, as being fatal to his claim, the grant of the manor by Queen Elizabeth in 1559, to Ambrose Dudley, to be held by the service of being pantler (*panetarius*) after the coronations of kings and queens.⁵ For the manor, which had previously lapsed to the Crown by the attainder of John Duke of Northumberland, was now granted with a special limitation in tail male, and on the extinction of male issue "it reverted to the Crown . . . and consequently the service of pannetry was thereby extinct."

The claimant's main object was to prove that the ownership of the manor carried the service; but his

¹ See p. 270, above. In another part of the *Red Book* (p. 567) "Aumlega," Worcestershire, is named; this was Elmley Lovett. The official editor, Mr. Hubert Hall, identifies it as Ombersley.

² *Feudal England*, 176.

³ II. part 2 (Gartree Hundred), 635, 636, 645-647.

⁴ A previous unsuccessful claim seems to have been made at the coronation of William and Mary (1689) by the then holder of the manor.

⁵ This grant is printed in full by Nichols.

evidence for this was weak. It appears to me to have consisted, virtually, of findings in inquests after death, which, as I had occasion to note in the Lord Great Chamberlain case, were not unfrequently erroneous. Thus in 1341 Thomas de Beauchamp, Earl of Warwick, is recorded as holding the manor "by the service of being the King's *panetarius* on his coronation day."¹ In 1304 Philippa, wife of Guy de Beauchamp, is returned to have died seised of the manor held of the king *in capite*, by the service of laying the king's cloth (*ponendi unam mappam super mensam*) on Christmas Day.² This is a notable variant of the service, and the mention of laying the cloth is, we shall find, important. In 1400 Thomas de Beauchamp dies seised of the manor by grand serjeanty, namely, by the service of being the chief panteler on the day of his coronation,"³ and in 1406 his widow, Margaret, is returned at her death as holding the manor by the same service.⁴ There is not in this, I think, any absolute proof that the pantlership was held in the right of the manor till Queen Elizabeth joined the two, artificially, by her grant to Ambrose Dudley.

We may now return to the records of the Coronation service. The two great mediaeval precedents were the coronations of Queen Eleanor in 1236, and of Richard II. in 1377, and the records of both, which are well known, will be found in Mr. Wickham Legg's *English Coronation Records*. From it (p. 135) I take the actual petition of Thomas Beauchamp, Earl of Warwick, in 1377. After claiming the privilege of carrying the third sword, the earl continues :

Et ensement ses ditz Auncestres ont ewes l'office de Panetrie et mesmes l'office serviz par eux et lour deputes et Ministres enlours propres persones des salers coteaux et coillers et mesmes les salers coteaux et coillers ont ewes et reicus pour leur feodz ensi come ses ditz Auncestres on faitz et auant ces heures.

On this claim the Court gravely decided that the earl had made out his right to the office, and to the salt-cellar

¹ Nichols cites "Fines in Scaccario, Mich., 17 Edw. III."

² Nichols cites "Esch. 43 Edw. III. pars. 1, No. 20.

³ Nichols cites "Esch. 2 Hen. IV. No. 58, Leic."

⁴ Nichols cites "Esch. 8 Hen. IV. No. 68, Leic."

and knives as his fee,¹ but that as there was no evidence of his right to make off with the spoons (*cociaria*), that point must be referred to the king. And the king, we read, subsequently decided, on the ground of certain evidence (*pretextu quarundam evidenciarum*), that the earl should have the spoons. But, for us, this is the earliest evidence of a claim to the spoons being recognised.

At the coronation of Henry IV. (1399), according to Sir William Halford's counsel, the same Earl Thomas petitioned to serve the office with "saliers, cotels, et coters," and had his claim allowed. Here one may add the interesting fact that the earl, by his will in the following year, 1st April, 1400, bequeathed as heirlooms his cup of the swan, and the knives and salt-cellars for the coronation of a king.² Accordingly we read, in an MS. account of the coronation of Henry V., that the then Earl of Warwick had "les drapes, les selers, les coclers, que furent mult riche, et tout les autres fees de l'office." Here, you will observe, the cloths (*drapes*) appear among the fees for the first time. According to another Cottonian MS., at the coronation of Henry VII.'s queen, in the third year of his reign, "the office of the pannetry," with its fees, viz. "coteux tranchanz et la sala et le coverpayne," were petitioned for by three persons in right of the earldom of Warwick, as guardians, Nichols suggests, of the infant earl. It is doubtful, however, who was then the actual holder of the earldom. Lastly, at Edward VI.'s coronation, John Viscount Lisle claimed "to be panterer the day of the king's coronation and the queen's; and to bear the salt and the carving-knives from the pantry to the king's table; and to serve by himself, his ministers

¹ Baker renders this decision as "to bear the third sword before the king and also to exercise the office of Pantler." (*Chronicles*.)

² Nicolas's *Testamenta Vetusta*. The great prize, probably, was the "salte," such, for instance, as that which Henry the Seventh acknowledges receiving, 1 Nov. 1485, from Richard Gardiner, merchant of London: "a salte of golde with a cover stondyng upon a moren' garnyshed with perles and precious stones, the which salte was sumtyme belonging to Richard late in dede and not in right Kyng of

England, and delyvered to the said Richard Gardynere by one William Dabeney, late Clerke of the Jewells of the said late pretended kyng." (*Report on Historical Manuscripts in various collections*, II. 296.)

At the actual date referred to in the text (1400) we read of six white silver salt-cellars, gilt on the "swages," without covers, weighing 8 pound 15s., four others, and a cover of a silver-gilt and polished salt-cellar, all late the property of Richard II., and then in the custody of Richard de la Panetrie (*sic*).—*Calendar of Patent Rolls*.

and deputies, to the office of pantry during dinner-time, and he claimeth to have thereby the same salt and knives, and also the spoons, served to the king's table that day." He claimed that his stepfather, Viscount Lisle, had executed the office at Queen Anne Boleyn's coronation in right of his wife, through whom he himself was "right heir from Richard, Earl of Warwick"; and his claim was allowed.¹ No evidence was produced as to Anne Boleyn's coronation beyond the allegation in Lord Lisle's claim; but in an account of that coronation I find the entry, which refers to his father, "Lord Lisle, panter."² An interesting description of Anne's coronation tells us that "around her was an enclosure into which none but those appointed to serve, who were the greatest personages of the realm, and chiefly those who served 'de sommeliers d'eschançonnerie et de panetrie,'" ³ were admitted.

It was confessed by Sir William Halford's counsel that after, at any rate, Elizabeth's reign, there was no trace of the office being exercised or even claimed at coronations; although, as we have just seen, "it was classed with no less a dignity than the butlership (*eschançonnerie*). And, as I observed above, this was the actual ground on which the claim was rejected. But he also failed to adduce proof that the office had ever been claimed in right of the tenure of Kibworth-Beauchamp. Indeed, his own evidence showed that at Edward VI.'s coronation John Dudley, Viscount Lisle, had claimed the office as "right heir from Richard, Earl of Warwick." And here it is not irrelevant to observe that he was heir only of the eldest of the earl's three daughters, and that if the nature and admission of his claim had been known last year to Lord Ancaster's counsel, in the great Chamberlain case, they would possibly have made a strong point of it, as the claim of Lord Ancaster rested mainly on the ground that such offices as these should descend entire to the heir of the eldest daughter; but the instances adduced in proof were all of remote date.

¹ See, for all this, Nichols, *ut supra*, p. 646; and compare for Lord Lisle's heirship of the eldest daughter of Richard Beauchamp, Earl of Warwick, my article on "The Great Chamberlain Case" in *The Ancestor*, IV. 11.

² *Letters and Papers, Henry VIII.* 1533, p. 278. A contemporary account published in *Tudor Tracts* (Archibald Constable & Co.) names him as "panterer."

³ *Ibid.* 265.

You will doubtless have observed that we have found nothing in the coronation records to connect the office of the pantler (or the "panneter") with bread. Sir William Halford's counsel, it is true, stated that "his chief business, if one may guess from the name of his office, was to provide bread; and upon that account, I presume, the coverpane has been always allowed at former coronations to those who have executed this office."¹ But this is a false etymology, though a not unnatural guess, if we may trust the *New English Dictionary*, which states that, as with the "counterpane," the "pane" represents not bread, but cloth. There seems, however, to be reason for doubting this derivation.

The absence of any mention of the bread itself is obviously due to the fact that it was not among the fees claimed for discharge of the office. But there is evidence from other sources which directly connects the bread with the knives and the great salt as belonging to the pantler's office. If we go back, so far as France is concerned, to the close of the thirteenth century, we find a bishop of Angers writing as follows :—"When we were seated there came a noble, Sir Guy de Camilliac, in a tunic, bearing a cloth (*mappam*) upon his shoulder, which he set on the table before us, his officers assisting him; and when this was done, he set two rolls (*panes*) before us with his own hands, and other rolls on the said table at which we were sitting, which office was incumbent on him by reason of the fief of Camilliacum which he holds of us. Wherefore he was bound to undertake the office of *Panistarius* that day . . . After dinner he had all the cloths (*mappas*) of the said places, because it was his right."² Here we see the *panistarius* placing the lord's bread on the table, and also laying the cloth (*mappa*). This laying of the *mappa* we have already heard of as the tenure by which a Countess of Warwick held Kibworth, and we also found an Earl of Warwick alleged to have received, as *panetarius*, the *drapes* at Henry V.'s coronation. But so far as actual claims are concerned "le coverpayne" alone appears. Moreover, there was, from the earliest times, another and recognised claimant to the

¹ Nichols, *ut supra*.

² See, for the Latin text, Ducange (1886), VI. 128.

table-cloths, the *mappas* : this was the napier, the officer of the napery. At the coronation of Queen Eleanor this officer, after dinner, received the table-cloths as his fees.¹ At the coronation of Richard II. he similarly claimed "*les napes quant ils soient suistretz*," and again received them after dinner, when they were removed, as his fee.² It is clear then that, in this country, the pantler had no claim to the table-cloth, and this is further confirmed by the fact, to which we shall come, that the table-cloths, in household economy, were not in the pantler's department.

From this it follows that the "coverpane," which was what the pantler claimed, was, as I have already said, something distinct from the table-cloth (*mappa*).

For the details of the pantler's function at the coronation feast we must turn to the instructive directions for another, but a strictly parallel solemnity, *viz.* the inthronization dinner of the Archbishop of York in 1465. At this great feudal ceremony, when George Nevill sat in state, Sir John "Malyvery" (Mauleverer) officiated as "Panter," a fact sufficient to demonstrate that the post was, as at coronations, honorary. I only regret that the narrative, which I found with some difficulty,³ is too lengthy for quotation at such length as it deserves.

Hereafter followeth the service to the Baron-bishop within the close of Yorke :—

Item, the Yeoman of the Ewrie must cover the hygh Table, with all other Boordes and Cubbordes.

Then the Panter must bring foorth Salt, Bread and Trenchers, with one brode and one narrow knyfe, and one spoone, and set the salt right under the middest of the cloth of estate, the Trenchers before the Salt, and the bread before the Trenchers towards the Reward, properly wrapped in a Napkyn, the brode knyfe poynt under the Bread, and the backe towards the Salt, and the lesse knyfe beneath it towards the rewarde, and the Spoone beneath that towards the rewarde, and all to be covered with a Coverpane of Diaper of fyne Sylke. The surnappe must be properly layde towards the salt endlong the brode edge, by the handes of the forenamed Yeoman of the Ewrie; and all other Boordes and Cubberdes must be made redy by the Yeoman of the Pantry with Salt, Trenchers, and Bread.

Also at the Cubberde in lyke manner must the Panter make redy with Salt, Bread, Trenchers, Napkyns, and Spoones, with one brode

¹ "*extractas vero post prandium mappas tanquam suas et ad officium suum spectantes recepit.*"

² "*peracto prandio mappas de mensis subtractas pro feodo suo recepit.*"

³ In Leland's *Collectanea*, VII. 7, *et seq.*

knyfe for the rewarde . . . and the Carver must go to the table, and there kneele on his knee, and then aryse with a good countenance, and properly take off the coverpane of the Salt, and geve it to the Panter, which must stand still. . . .

[Dinner being over] Then the Panter must make his obeysaunce before the Table, kneeling upon his knee with a Towell about his neck, the one ende in his ryght hande, the other in his left hande, and with his left hande to take up the spoones and knyves properlye, and with his ryght hande to take up the Salt bowyng his knockels neare together, with his obeysaunce, and so return to the Pantry.

The order that the Panter must "make his obeysaunce before the Table kneeling upon his knee" should be compared with Lord Montagu's order, in Elizabeth's days, that his pantler should make "two curteseyes" even to his empty dining table and "a small obeysaunce" when placing the bread, etc. thereon;¹ for it illustrates the Laudian canon of 1640, advocating "reverence and obeysaunce" on entering church and chapel, "not with any intention to exhibit religious worship to the Communion Table, the east, or church," etc. It also helps to illustrate "the Black Rubric."

I now pass to a document of the period, the *Liber Niger* of the King's House temp. Edward IV. Here we read that

the office of Panetry hath a serjeaunt, which is called chief Pantrer of the Kinge's mouth and mastyr of this office . . . he receivythe the brede of the serjeaunt of the bake-house by entayle² . . . other 3 yoman in this office panthers . . . these yomen by assent . . . sette the saltes in the halle and take them up last.

We also read of the "clippinges of bread" which are afterwards found as the recognised fees of pantry servants, and that the countrollers "ofytymes see that they be not pared too nigh the crumbe."³ Among the multitude of other departments we may note "the office of Ewary and Napery."⁴

In the ordinances of King Henry VII. we read that "the karver must see the paintre (*sic*) take assay of the bread, salt, and trenchers."⁵

Those of King Henry VIII., in his seventeenth year, speak of such servants as "buttler, pantler and ewer"

¹ See p. 281, below.

² *i.e.* by tally.

³ *Household Ordinances* (Society of Antiquaries [1790]), 70 and 71.

⁴ *Ibid.* 83.

⁵ *Ibid.* 118.

being present at the king's dinner;¹ and in later ordinances of the same king we read of "the Serjeant of the pantry . . . daily tallying with the serjeant of the bakehouse the number of bread that he doth receive of him."² Under Queen Elizabeth, in 1602, we find "the Pantrey" entered as usual immediately after "the bakehouse," while "the Seller," "the Buttery," and "the Ewery" appear as other departments.³ And we read of its fees: "The serjeant hath for his fee all the coverpannes, drinking towells, and other linen clothe of the king's side that are darned"; while "the gentlemen have the like fee of the queene's side," and the yeomen "all the chippings of breade spent within the said office, for the which they find chipping knives."⁴ Here we are at once reminded of Shakespeare's contemporary phrase:—"A good shallow young fellow; a' would have made a good pantler, a' would ha' chipped bread well."⁵ As we might expect from the conservatism that distinguished the royal household, the connexion of the pantry with the bakehouse and the bread continued close throughout; when the Gentleman Usher under Charles II. went, as the phrase ran, "for to fetch All-Night for the king," he made his way first "to the pantry, there to receive the king's bread, and well and truly to give the officer of the mouth the saie thereof"; next to the buttery and the pitcherhouse, and then to the ewry, "there to receive the king's towell, bason, and water."⁶ And even under William and Mary, when the Court was on its "removes," the bakehouse and pantry occupied jointly one of the train of vehicles in the lumbering caravan.⁷ Moreover, the "gentleman and yeoman" who was at the head of the pantry was still receiving wages, I have reckoned, at the rate of 7½*d.* a day, the same rate, apparently, as under our Norman kings.⁸

¹ *Household Ordinances*, 153.

² *Ibid.* 232.

³ *Ibid.* 283.

⁴ *Ibid.* 294. For the Ewry (*Aquar*) the fees consisted of the "diaper" and "plaine clothes" that were "dampned" (p. 296), and this last word is used in other departments, which throws grave doubt on the "darned" of the Pantry.

⁵ 2 Henry IV. II, 4, 258. (See note 2, p. 268 above.)

⁶ *Household Ordinances*, 374.

⁷ *Ibid.* 414.

⁸ *Ibid.* 395. The heads of the Buttery, Chaundry, Accatry, Queen's Privy Kitchen, etc., the Gentlemen Harbingers and the two heads of the cellar, were all similarly receiving, in 1689, £11 8*s.* 1½*d.* as yearly wages, which odd sum works out at 7½*d.* a day. Payment of wages at the rate of so many pence (or halfpence) a day was

We must turn, however, from the royal household to those of the great nobles if we would obtain full details of the pantler's office and functions. The closing years of the sixteenth and the early ones of the seventeenth century are rich in rules and ordinances for the great households of the time. We will take first the pattern orders suggested for the household of an earl, with its "seller, buttry, pantry, and ewry," the four departments which are regularly found in these elaborate households.¹

Herein we read of the "yeoman and groome of the pantry":

The Yeoman should be a man of seemly stature, wearing his apparell clenly and handsome, in regard he commeth dayly to the Earles table. He is to receive the manchete, cheate, and sippet breade, from the bakers by tale; He and the groome are to keepe the saltes, spoones and knives very faire and cleane. . . . He is every night to accompt to the clarke of the kitchin what breade of all sortes is received, how much spent, and what remaineth. . . . He and the groome are to chipp the breade, but they are not to chopp off(f) great peeces of the bottomes of the loaves to make the chippings the better, which are their fees; but to this the cheefe officers and clarke of the kitchin are often to look (p. 29).²

Of the Yeoman of the Ewry, who here again receives the clothes and napkins from the keeper of the Napery, we read that "albeit he be not so personable a man as the Pantler, yet should goe neate and handsome in his apparell" (p. 30).

Our next authority is "A breviat touching the Order and Government of a Nobleman's house," in which we read (1605) of "The yeoman of the Pantrie" that

Hee is to receave all breade from the baker, and to tallie with him for the same, and to enter the dailie chardge what is spennte and to carrie the salte with the carving knife, clensing knife, and forke, and them to place upon the table in dewe order, with the breade at the salte, and then to cover the breade, with a fynne square clouth of cambrick called a coverpaine (which is to bee taken of, the meate being place on the table and the lorde sett) by the carver and delivered to the pantler.³

the rule in Norman times. In the *Constitutio Domus Regis* the Harbingers and the chamberlain of the chaundry are found receiving 8d. a day under Henry I. The sum of 7½d. is a quarter of the Spencer's pay under Henry I., and an eighth of that of the Chancellor and *Dapiferi*, which seems to have been the unit.

¹ In the *Northumberland Household*

Book, for instance, we have the "yoman of the Sellar," "yoman o' th' Pantry," "yoman of the Buttry" "yoman o' th' Ewry" (p. 41), the second being also styled the "pantler" (p. 88) or "pauntler" (p. 305).

² R. Brathwait's *Some Rules and Orders for the Government of the House of an Earl* (1821).

³ *Archaeologia*, XIII. 333-4.

This is the passage on which I rely for the meaning of the word "coverpaine." The removal, we see, here takes place precisely as at George Nevill's enthronization feast.

The last of my three selected documents is the most important of all, the finest thing I know on the English ritual of the table. It is buried away in the seventh volume of *Sussex Archaeological Collections* (pp. 174-212), and is styled the "Booke of orders and rules of Anthony Viscount Montague in 1595." In it the noble author writes as follows on the pantler :

THE YEOMAN OF MY PANTRYE AND HIS OFFICE.

I will that the Yeoman of my Pantrye doe receave of the Yeoman of my Seller by Inventorye or billes indented interchangeably betweene them all such plate as shall apperteyne to his office, viz., saltes, plate, trenchers, spoones, and knives hefted with silver, and be answerable to him for the same. I will that he receave the breade of the Baker, by tale, and keepe a true reckonnings of the receipts of the same and doe weekly make accompte thereof to the Clarke of my Kitchen ; I will that being warned by the Yeoman Usher to prepare for my dyett, he doe arme himselfe, and have all thinges in a redynes for my service, and beinge come for by him shall followe him through the Hall to my dyninge chamber dore, and from thence go even with him on his right hande unto my table makeinge eche of them two curteseyes thereto, the one about the middest of the chamber, the other at the boorde ; which done, he shall place the salte, and laye downe the knyves, and then lay myne own trencher with a manchet thereon, and a knife and spoone on either side ; and my wife's in like manner ; at every which service ended, he shall make a small obeysance : and having fully done, and together with the Yeoman Usher made a solempne courtesye, he shall departe so conducted oute, as he came in.

I will that everye meale, after the first course, he followe my service uppe havinge a purpyn¹ with breade on his arme and a case of knyves in his hande, to supplye their wantes that shall neede : and after that I am sett that he come upp some tymes to see that there be noe wante of breade or any other thinge that belongeth to his office ; and after everye meale ended and the voyder taken awaye, that he come and orderly take off the salte and knyves, and with due reverence return, soe bearinge them downe as he brought them uppe (p. 204).

In this invaluable description we see the "salte" and knives ceremoniously brought to the table and removed therefrom by the pantler precisely as they had been by the great pantler at the coronation feast, and as they

¹ A bread basket (*pour pain*).

had been at the York feast a hundred and thirty years before. The spoons are added, as they had been since Richard II.'s coronation, while the placing of the manchet and service with the "purpyn" directly connect the pantler with the bread from which his name was derived.

Moreover, in another part of this document we read of the "Baker and his office":

I will that my Baker receave all his wheate of my Granator by talle, and deliver his breade by the like talle to my officer of my pantrye, and that att everye monethes ende he doe make accompte to the Clarke of my Kitchin of all the wheate that moneth by him receaved, and howe many cake of breade he hath delivered the same moneth to my Pantler (p. 209).

It will be remembered that the pantler's duty of accounting by tally with the baker, which occurs in all these documents, was expressly named in Henry II.'s grant of his *panetaria*, in which Odoin is charged to keep account by tally with the king's bakers; also that the *computator panis* is named in the *Constitutio domus regis*.¹

It is clear, however, that the laying of the cloth, as apart from the placing of the "salt," etc. was in England the function of the yeoman of the Ewry,² and that the great pantler, therefore, at the coronation feast cannot have been entitled to the cloth (*mappa*) as his fee. But of far greater importance, as distinguishing the English

¹ It may be interesting to note that in that early document he is immediately followed by the bakers, who had, like Lord Montague's baker, to produce so many loaves from each bushel of wheat.

"modium Rothomagensium, de quo debent reddere xl siminellios dominicos, et cl sal', et cclx panes de pistrino." *Liber Niger*.

"the rate that is appoynted him to make of every bushelle (viz.) of full and plummie wheat, every loafe to weighe sixteene ounces from the oven, and of barren and hungrye wheate fifteen ounces and an halfe or thereabouts, and that there be made of that size, thirye caste of bread of everye bushell." (p. 209).

² Even in the Royal Household the Ewry included the Napery, but in the coronation services the two were differentiated and the offices of Napier and of Ewer were vested in different persons. But at the enthronization

feast of the archbishop of York, the cloth ("surnappe"), we have seen, was laid by the serjeant of the Ewry, and this was also the procedure in Lord Montague's household. His Lordship's directions were that the yeoman of his Ewry should "laye the table cloth fayre uppon both his armes, and goe together with the Yeoman Usher with due reverence to the table of my dyett, makeinge two courtesys thereto, the one about the middest of the chamber, the other when he cometh to ytt, and there, kissinge ytt, shall laye ytt on the same place where the sayd Yeoman Usher with his hande appoynteth casteinge the one ende the one waye, the other ende the other waye; the sayd Usher helpeinge him to spreade ytt, which beinge spreadde and reverence done," the yeoman of the Pantry is to place the "salte," etc. The whole ceremonial deserves to be compared with that of the York feast in 1465.

panetaria, is the fact that, in England, the king's pantler never enjoyed, so far as we can find, that jurisdiction over all bakers which was vested in the *grand panetier de France*, and which, as we have seen, was expressly conferred in the grant by Henry II. of the Norman *panetaria*.

Of the *grand panetier* we read :

On désignait autrefois en France sous le nom de grand panetier un grand officier de la couronne, chargé de servir le roi à table, concurremment avec le grand échançon dans les jours de cérémonie, et sous l'autorité duquel se trouvaient tous les boulangers demeurant à Paris et hors des portes.

L'office de grand panetier était toujours possédé par un homme de la plus haute noblesse. En 1332 Bouchard de Montmorency était *Panetarius Franciæ*, et en cette qualité il eut un procès avec le prévôt des marchands et des échevins de la ville qui, soutenant les intérêts des boulangers, l'entravaient dans l'exercice de sa juridiction . . .

. . . Louis XIV., par un édit du mois d'août 1711, supprima la juridiction de ce grand officier, qui plaçait au bas de l'écu de ses armes la nef d'or et le cadenas qu'on paraît autrefois à côté du couvert du roi.¹

In the eighth volume of his *Histoire généalogique de la maison de France*, 1733, Père Anselme devotes eighty pages to his history of the "Grands pannetiers de France" (pp. 603-682), at the head of which the *cadenas* and the *nef* are rudely shown in woodcuts. But a better description shows us the richly wrought *nef*, which was replaced in the sixteenth century by the *cadenas*, a square plate two inches high, with a cover, which held the knife, fork, and spoon, salt, pepper and sugar. A still more close connection with the mediaeval custom is seen in Montaigne's account of the *cadenas* used by the Cardinal de Sens even in Italy :

"devant ceux à qui on veut faire un honneur particulier . . . on sert de grands quarres d'argent qui portent leur *salière*, de même façon que ceus qu'on sert en France aux grans. Aux dessus de cela, il y a une serviette pliée en quatre ; sur cette serviette le *pain*, le *couteau*, la fourchette, et le *culier*."²

Here we have the salt, the bread, the knife and the spoon, which formed, as we have seen, the pantler's province, with the addition of the fork that marked an advance in civilisation.

¹ *Grand Dictionnaire Universel*, XII. 113.

² *Grand Dictionnaire*, III. 43.

Proceedings at Meetings of the Royal Archaeological
Institute.

July 1st, 1903.

Mr. HERBERT JONES, F.S.A., in the Chair.

Mr. R. GARRAWAY RICE exhibited a steelyard dated 1756.

Professor BUNNELL LEWIS read a paper on "Roman Epigraphy in Northern Italy," and called attention to the subject of inscriptions, which has been comparatively neglected by our countrymen. No Englishman has written a book that would sustain comparison with Spon's *Miscellanea Eruditæ Antiquitatis*, published in 1685. In our own day this field of study has been cultivated almost exclusively by Germans; and even the *Inscriptiones Britannicæ* have, to our discredit, been edited by Hübner. In the north of Italy some words occur on the inscribed stones which seem to deserve special notice. CAPSARIUS properly means one who carries *capsa*, a box, generally of books, as it appears in the mosaic of Monnus at Trèves; but in the inscription, of which a copy was exhibited, it probably means a military officer who had charge of boxes, in which army accounts were kept. POLLA is another form of Paula, a name borne by many Roman ladies of the highest rank; in ecclesiastical history Paula is a prominent figure. She was the disciple of Jerome, and devoted her daughter to perpetual virginity; on this account he calls her the mother-in-law of God, "*Dei socrus esse cœpisti*"! PAEDAGOGVS is the tutor who had care of children. He is represented in a wall painting at Pompeii that has for its subject Medea meditating the murder of her children; he also appears in the famous Niobid group at Florence. The correctness of the attribution is proved by an ancient vase, where ΠΑΙΔΑΓΩΓΟΣ is inscribed over a figure of the same kind and in the same dress. PAEDAGOGA, the governess, shows that the Romans paid attention to the education of girls, and corresponds with many references which the authors make to the accomplishments of women. III·VIR·I·D (*Quatuorviri jure dicundo*) bears witness to the administration of justice by four judges in a Roman colony. Sometimes we meet with *duoviri*. The paper ended with some remarks on the connexion between classical art and the Italian Renaissance.

Mr. HAROLD BRAKSPEAR contributed a paper on recent excavations of the Roman villa at Box. Having described all that is known of previous excavations on the site since 1831, he gave a detailed account of the work carried on during 1902. A plan of the building showed it to have been of very considerable dimensions, and the photographs and drawings of several tessellated pavements illustrated the beauty of its once decorated interior.

A List of the principal Works published under the superintendence and sanction of the Council of the Royal Archaeological Institute.

THE ARCHAEOLOGICAL JOURNAL, published under the direction of the Council of the Archaeological Institute. Vols. I. to V. 8vo. 2l., cloth boards; Messrs. PARKER, Oxford and London.

Vols. VI. to XXV. (inclusive) may be obtained at the Office of the Institute, or through any Bookseller, price (*in parts*) 12s. 6d. a volume; price to Members, 4l. for the series in question (*in parts*), or at the rate of 4s. a volume, in portions of not less than five volumes. Later volumes, 7s. 6d. a part, or 1l. 10s. a volume; price to Members, 2s. 6d. a part or 10s. a volume; last three volumes published, price to Members, 5s. 6d. a part or 15s. 6d. a volume.

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ARCHITECTURAL HISTORY OF CHICHESTER CATHEDRAL: by Professor WILLIS, F.R.S. (a discourse delivered at the Meeting of the Institute, in 1853), with an Essay on the Fall of the Spire; also Boxgrove Priory, by Rev. J. L. Petit, and Shoreham Church, by Mr. E. Sharpe, being Memoirs read at the Meeting (*out of print*).

OLD LONDON: being a selection from papers read at the London Meeting in 1866. Published by JOHN MURRAY, Albemarle Street. Price 12s.

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The first Meeting of the Session 1903-1904 was held on the first Wednesday in Nov. 1903; and such Meetings will be held at 20 Hanover Square, on the first Wednesday of the month (January excepted), November to July inclusive. The proceedings commence at 4 P.M. Any Member is at liberty to introduce a friend.

A desire has been expressed, by persons who have recently joined the Institute, to obtain the earlier volumes of the *ARCHAEOLOGICAL JOURNAL*, in order to become possessed of the complete series. The first five volumes, published by Messrs. Parker, London and Oxford, 1844-1848, may be procured through any bookseller. MEMBERS have special facilities in regard to the purchase of the subsequent volumes, VI. to LVIII. inclusive; also in regard to the Transactions at the Annual Meetings, and other publications of the Institute.

(See list of Publications, page 3 of this wrapper.)

The general Index to the first twenty-five volumes of the Journal, brought into shape by the late Mr. Burt, and completed by Sir John Maclean, may be obtained from the Hon. Secretary, price 10s. 6d.

Cloth cases for binding the Journal may be obtained at the office of the Institute, price 1s. each.

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Communications respecting the *Archaeological Journal* should be addressed to the Hon. Secretary, Royal Archaeological Institute, 20 Hanover Square, London, W.

LISKEARD, LEGIO.

By F. HAVERFIELD, M.A., F.S.A.

Hon. F.S.A. Scot.

The town of Liskeard in Cornwall has long had a puzzling connection with the Roman legions. It has been credited with a Roman name, *Legio* or *Sebasta altera legio*, and writers in the *Journal of the Royal Institution of Cornwall* and elsewhere have conjectured that in the Roman period a legion was at some time or other in occupation of the site.

This conjecture may be confidently rejected, for the simple reason that no Roman remains have ever been found at Liskeard or in its neighbourhood. Only one object has been even cited as Roman and that may be assigned without much hesitation to a later age. It is an inscribed stone with letters in relief, now practically illegible, but once deciphered in part as *olim Marti nunc arti* or similar words; till about forty years ago it was in a wall of the Liskeard Grammar School on the site of the medieval Castle.¹ The fact that the lettering is on stone in relief shows that it is not Roman, for Roman lapidary monuments bear incised lettering. Doubtless it is of late medieval or modern date and records the conversion of the place from the service of the God of War (Mars) to the uses of education (*ars*) as a Grammar School. Beyond this stone, no trace of Roman antiquity has ever been assigned to Liskeard and its neighbourhood, and we may take it as certain that the town does not occupy a Roman site, legionary or other.

Whence then came the appellation *Sebasta altera legi*? It has a long and curious history, which starts early in the sixteenth century with Michael Villanovanus, better known as Servetus, enemy and victim of

¹ Polwhele; Allen, *Hist. of Liskeard*, p. 349; *Journal of the Royal Institution of Cornwall*, 1864, i (2), p. 13; Fifty-first Report, pp. xxv,

xxviii (1869); *Journal*, x. 227. When the school was founded, seems unknown; a schoolhouse stood within the ruins of the castle in 1649 (*Lysons*, p. 201).

Calvin. Servetus in 1535, when he was barely twenty-six years old, published at Lyons a Latin edition of Ptolemy's Geography, and inserted into it the then novelty of notes, identifying various of Ptolemy's place-names with modern names. They are brief marginal notes, mostly one word long, mere identifications without statement of proofs, reasons, or authorities. In general they are not very good identifications. Ancient geography was only beginning to be understood in 1535; Servetus was a young man, and in identifying Ptolemy's place-names he was largely a pioneer and liable to a pioneer's mistakes.

For Britain he gives seventy-seven identifications. Of these about a dozen are right, relating to well-known names like *Londinium*, *Eboracum*, *Vectis*, *Lindum*, *Rutupiae* and the like: the rest are more or less wrong. He does not tell us whence he obtained them, nor can I supply his omission except by conjecture. There was, of course, some material available in 1535 to help a student of Romano-British geography. Identifications of Roman place-names occur occasionally in medieval chronicles. Accounts of sixteenth century Britain had been published before 1535 by such writers as Aeneas Sylvius (Pius II.), Virunnius Ponticus, Raphael of Volaterra, Polydore Vergil, John Major or Mair, Hector Boethius. Manuscript maps of England had been drawn up by English and foreign cartographers, and several of the early editions of Ptolemy contain a printed "*nova Angliae tabula*" of Italian origin. Servetus included this Italian map in his edition. But he did not use it for his identifications of place-names in Britain, since its selection and spelling of names differs entirely from his: while the rest of the material which I have just indicated, seems to have been almost unknown to him. The general character of his identifications suggests rather that he had before him an account, or perhaps rather a manuscript map of sixteenth century England, drawn up in England and differing a good deal from anything hitherto constructed.¹ To this

¹ The modern names which Servetus cites in his marginal notes are spelt in English fashion: for example, London,

not Londra, as in the printed Italian map. But his selection of name is quite unlike the known MS. English

map (if map it was) he applied the principle that ancient and modern towns often agree in site and name. We find him, for example, equating *Cataractonium* with Carlisle, *Corinium* with Gloucester, *Deva* with Doncaster, *Dunium* with Dorking or Dorchester, *Mediolanum* with Manchester, *Tamara* with "Tanerstok" (Tavistock), *Bolerium* with St. Buryan. It is plain that in each case he has selected from his map or account of England some modern name which suited, however roughly, the required position and which bore some faint similarity in spelling to the ancient name in question. It may not sound a hopeful plan; certainly it has not yielded good results in the case before us. But it was almost the only plan available in an age which possessed neither accurate maps nor adequate records of Roman remains, and it was widely used throughout the sixteenth century. Within limits it was by no means so irrational as it sounds. In Italy, France and Spain, the lands most familiar to Renaissance scholars, the modern towns do frequently stand on Roman sites and preserve in their appellations vestiges of Roman names. We need not greatly blame Servetus if he concluded the same to be true of Britain, or if in default of real indications he caught at distant and trifling similarities in site and spelling. The English antiquaries who succeeded him, Robert Talbot in 1547, Humfrey Lhuyd in 1572, Camden at the end of the century, did much the same, and our own age is not faultless in this respect.

Among these identifications of Servetus is one which now concerns us. Ptolemy, it will be remembered, inserts under the heading "Dumnonii" in his British chapter, a puzzling and probably inaccurate entry, "Ἰσκα· λεγίων· δευτέρα· σεβαστή."¹ Some manuscripts and many early editions of his work break this entry into

maps, such as those facsimiled by Gough (*British Topogr.*, Vol. I) and Nordenskiöld. Possibly Servetus may have seen a map by George Lily, which is mentioned by Bale (*centuria nona*, lxviii) and Gough, but I have never met with it and doubt if it was drawn so early as 1535. The later maps by Sebastian Münster (Basle edition of Ptolemy, 1540) and by Sebastian a

Regibus Clodiensis (1554) come much closer to Servetus, but may have been influenced by him. The suggestion of Burton (*Commentary on Antoninus*, p. 64), that Servetus copied Molelius, is impossible, since the edition of Ptolemy by Molelius came nearly thirty years after the first edition by Servetus.

¹ Compare *Archaeological Journal*, xlix. 181.

two, Ἴσκα and Λεγίων δευτέρα σεβαστή, each with its own latitude and longitude. Servetus follows this latter reading and accordingly has two names to identify. *Isca* he explains as Exeter, while against *legio secunda Augusta* (the Latin for Λεγίων δευτέρα σεβαστή), he put Leskerd, or as we now spell it, Liskeard. Apparently he had no better reasons than that *Legio* and *Leskerd* both begin with Le-, and that Liskeard is situated in the district where he supposed Ptolemy to put Legio. In a second edition of his Ptolemy (Vienne, 1541), he slightly alters the marginal "Leskerd" to "Sebasta, vulgo Leskerd."

Thus made, the identification of Legio and Liskeard found at first some credence. With many other identifications proposed by Servetus, it was admitted into standard works, such as the *Bibliotheca* of Sir Thomas Elyot (ed. 1548), the great Latin-English dictionary of the age, and the *Synonymia Geographica* of Abraham Ortelius (Antwerp, 1578), and Ortelius slightly alters the Latin from "Legio" to "Sebasta altera legio." But it was ignored by English antiquaries like Camden, who knew quite well that the Legio II. Augusta properly belonged to *Isca Silurum*, in Monmouthshire; Richard Carew, in his *Survey of Cornwall* (1602), mentioned it only to reject it; and it never passed into the main current of antiquarian literature. It maintained, and indeed still maintains, an obscure existence through casual and generally puzzled citations.¹ One instance of its survival is curious enough to be noticed here. The Corporation of Liskeard possesses amongst its plate a standard silver goblet, made in London in 1665, and presented to it, presumably at the same time, by Sir Chichester Wrey, Recorder of the Borough since 1661. This goblet bears on the one side the arms of Liskeard, a fleur-de-lis, and beneath that the word LEGIO.²

¹ Lake, *Hist. of Cornwall*, iii. 149; RIC x. 227; Martin's *Record Interpreter* (1892), etc.

² Ll. Jewitt and W. H. St. John Hope, *Corporation Plate and Insignia*

of Office of the Cities and Towns of England and Wales, I. 87; information from Mr. Hope and the Town Clerk of Liskeard.

NOTE ON A WALL-PAINTING IN CLAVERLEY
CHURCH, SALOP.

By W. H. ST. JOHN HOPE, M.A.¹

At the meeting of the Institute in November, 1902, a paper on "Claverley Church and its wall-paintings," was read by Mr. P. M. Johnston, who exhibited in illustration tracings of a series of mounted figures painted upon the upper part of the north wall of the nave.²

In his description of this remarkable painting Mr. Johnston expresses his concurrence in a suggestion of the vicar of Claverley, the Rev. T. W. Harvey, that the subject represents "nothing more nor less than an incident in the Battle of Hastings with which the founder of the church, Roger of Montgomery, was prominently associated."

For an account of this incident we have only the authority of Wace, who describes in his *Roman de Rou* how a gigantic Englishman, who was doing tremendous execution with his battle-axe at the head of a company of a hundred men, was at last struck down by Roger of Montgomery, who came galloping up with his lance set. Wace's own words are as follows :

Bien le faseient li Normant,
Quant un Engleiz vint acorant ;
En sa cumpaigne out chent armez,
De plusors armes atornez.
Hache noresche out mult bele,
Plus de plain pié out l'alemele,
Bien fu armé à sa manière,
Grant ert è fier, o bele chiere.
En la bataille el primer front,
La ù Normanz plus espez sont,
En vint saillant plus tost ke cers ;
Maint Normant mit li jor envers
Od sa cumpaigne k'il aveit.

¹ Read at the Monthly Meeting of the Institute on 4th November, 1903.

² See Mr. Johnston's paper and accompanying plate, *ante*, pp. 51-71.

A un Normant s'en vint tot dreit,
 Ki armé fu sor un destrier ;
 Od la hache ki fu d'acier,
 El helme férir le kuida,
 Maiz li colp ultre escolorja ;
 Par devant l'arcon glacéia
 La hache ki mult bien trencha ;
 Li col del cheval en travers
 Colpa k'a terre vint li fers,
 E li cheval chaï avant
 Od tot son mestre à terre jus.
 Ne sai se cil le féri plus,
 Maiz li Normanz ki li colp virent,
 A grant merveille s'esbahirent.
 L'assalt aveient tot guerpi,
 Quant Rogier de Montgomeri
 Vint poignant, la lance beissie ;
 Onc ne leissa por la coignie
 K'il aveit sus el col levée,
 Ki mult esteit lonc exhanstée,
 Ke il Engleiz si ne ferist,
 K'a la terre platir le fist ;
 Dunc s'ecria : Ferez, Franceiz ;
 Nostre est li champ sor les Engleiz.¹

To my mind there are several serious objections to the acceptance of the ingenious explanation put forth by Mr. Harvey and Mr. Johnston.

In the first place, supposing we admit the very fanciful story of Wace, who is not at all a trustworthy authority, how should we expect it to be represented pictorially? To begin with, the big Englishman and his followers were not mounted, but fighting on foot, and would almost certainly have been depicted as a band of men, armed like their leader, with the formidable battle-axe. Roger of Montgomery and his Norman followers, on the other hand, were all mounted, and would appear as a group of horsemen galloping headlong into the fray, which Wace describes as ending in a fierce *mêlée* noteworthy for the gallant defence of the English, who slew the horses of the Normans and clave the shields of their riders. We should in fact have expected such a picture or series of pictures as those so graphically portrayed in the version of the Battle of Hastings itself on the Bayeux Tapestry, an authority to which Mr.

¹ Frédéric Pluquet, *L'Roman de Rou Wace* (Rouen, 1827), ii. 225-227, lines 13387-13423.

Johnston quite reasonably appeals for the resemblance of style between it and the painting under notice. But where in the Claverley picture is the band of English footmen? and where such violent action as that described by Wace, or so vividly depicted in the stitchwork? In the Claverley painting not a footman is to be seen; the whole of the men are mounted; and the movements of their horses are not in the least suggestive of a fight. Moreover, the chief figure, he who is falling from his horse, has for arms not an axe, but a sword and lance, the former of which he grasps in his hand, and the latter he has broken in his fall, while the man confronting him, whom Mr. Johnston regards as Earl Roger, looks quietly on with dropped lance, instead of transfixing his foe. These important discrepancies may perhaps be explained on the supposition that the painter of the picture knew naught of Master Wace's version of the story; but in that case we should like to know whose and what other version was current.

So far there is nothing whatever in the painting to recall a fight between a gigantic Englishman armed with a battle-axe and on foot, and a mounted Norman who slew him with his lance.

Admitting even the possibility of the painting having been drawn according to some tradition of the event, we have a scene depicted which, as Mr. Johnston himself points out, "is wholly secular in character, although invested at the time when it was painted with a semi-religious halo." I do not quite follow Mr. Johnston's saving clause, but I would venture to ask him if he can point to any other wall-painting yet discovered in an English church that is "wholly secular in character." Mr. C. E. Keyser tells me he does not know of a single instance.

The next point is, what can the picture, or series of pictures, represent?

Mr. Johnston has called attention to the fact that, as in the Bayeux Tapestry, conventional trees are used to divide different parts of the subject. The portion of the painting reproduced in the *Journal* depicts three subjects thus divided. That on the extreme right contains three figures, the next three figures, and there are three others in the imperfect remains of the third

subject. It will also be noticed that there is an attempt to repeat in each subject the same coloured horses, but this is not a very important point.

In the first picture the three figures are shown as quietly riding away from what Mr. Johnston thinks are the walls of a town. In the next picture one of the riders is tumbling headlong from his horse, breaking, as I think, his lance in his fall, while his two companions look quietly on. In the third picture the dismounted man is lying on the ground beside his horse, the reins of which, Mr. Johnston points out, are "being held apparently by a supernatural hand," while the other two men are facing each other, and one seems to be gesticulating with his sword. The rest of the painting is too fragmentary for anything to be made out with certainty, and many of the minor details have perished.

Now I would venture to suggest that we have here exactly what we should expect to find, a story taken from the Bible, and in this case that of the Conversion of Saul as described in the 9th chapter of the Acts of the Apostles and by St. Paul himself in the 22nd chapter. The first scene shows the departure of Saul from Jerusalem; the next his falling to the earth as he journeyed to Damascus, when the great light shined from heaven. The third picture shows him lying on the ground while the voice questioned him, a fact emphasized by the arresting of his horse by the supernatural hand, and the astonishment of the two companions confronting one another, who "stood speechless hearing a voice, but seeing no man." There was room on the wall for exactly two more pictures, and these possibly represented Saul remounting his horse, and being led of his friends to Damascus.

Although no other wall-painting of the Conversion of Saul seems to have been preserved or discovered elsewhere in England, there is no conceivable reason why it should not be found,¹ and in that case we should expect

¹ The Liberate Roll of 36 Henry III. orders the wardens of the King's works at Woodstock "to paint the old chapel with the story of the woman taken in adultery, and how the Lord wrote on the ground, and how the Lord

smote St. Paul (*dedit alapham Sancto Paulo*), and paint something concerning St. Paul and likewise paint the history of the Evangelists in the upper part of the same chapel." T. H. Turner, *Some account of Domestic Architecture in*

it to be depicted much as we see it here. Saul was "come nigh unto Damascus about noon," so the horses are trotting gently along in the mid-day heat. There is of course no mention in the Acts of the Apostles of Saul and his escort being mounted, but it is more than probable that they were, and we may be quite sure that an English or Norman artist would not have represented them otherwise than on horseback, since that was the accustomed method of travel in this country then and for long time before and after.

In an early fifteenth century Bible of English work in the British Museum,¹ in an initial letter P on fol. 306, Saul is shown as riding at the head of a band of six mounted men, all in armour, with sleeved surcoats, and pointed bassinets and camails; one, and perhaps a second, carries a long red rod (or spear). The horse Saul is riding is stumbling, and he himself is being thrown over its head. He is armed like the escort, but his hands are bare, and he is also bareheaded. Neither Saul nor his followers are shown with any weapons. In the foreground to the right is a town or city to which the band is riding. In the upper right hand corner is a figure of Our Lord in the clouds, with a scroll lettered

Durum est tibi contra stimulum calcitrare.

In another MS. of the same period in the British Museum,² a massbook (?) of English work, in a large initial L on fol. 12, Saul is depicted riding as before at the head of a band of four companions, but none of them is in armour. Saul's horse has stumbled, and the rider, who wears a long red tunic and blue cloak, is sprawling over it; Saul is also shown nimbed. Above is a half-length figure of Our Lord in the clouds, painted in red, with rays of the same hue radiating from Him.

*England from the Conquest to the end
of the thirteenth century* (Oxford, 1851,
239).

¹ Royal MS. I.E.ix.

² Add. MS. 29704.

BURNHAM ABBEY, BUCKS.

By HAROLD BRAKSPEAR, F.S.A.

At a short distance to the south of the Bath Road, upon the almost level tract of country between Windsor and Maidenhead, are the remains of a small monastery of Augustinian canonesses, situated in the parish of Burnham.

The history of Burnham Abbey has already been treated¹ by Mr. W. L. Rutton, C.E., so that it is needless to repeat it here, except those portions that throw light upon the history of the buildings.

The abbey was founded by Richard earl of Cornwall and king of the Romans, who endowed it with the manor and advowson of the church of Burnham, together with a portion of the manor of Cippenham. The foundation charter is dated from Cippenham the 18th day of April, 1266, "in the ninth year of our reign."

Margery of Eston, formerly sub-prioress of Goring, was appointed abbess the year following, though through some mistake the confirmation of the appointment is entered in the register at Lincoln under the year 1265, but the document itself says the appointment was made by the founder in the tenth year of his reign. This mistake has apparently led Tanner to ascribe the foundation to the year 1265,² and as his statement has been blindly followed by other writers, the mistake has continued to be repeated.

The abbey buildings seem to have been erected in regular sequence following the foundation, and the existing remains show little or no trace of alteration until after the suppression.

The Augustinian canonesses, or nuns, as they are frequently called, apparently followed the same rule of St. Austin as the canons of the order. Tanner claims

¹ *Records of Buckinghamshire*, v. 47-71.

² *Notitia Monastica* (London, 1787), s.v. Buckinghamshire, VI.

for them fifteen foundations in England,¹ all in the southern half of the country, but some of these are doubtful, and appear to have been of the Benedictine rule.

With the exception of Lacock, in Wiltshire,² none has left any considerable remains above ground, so that, until more sites have been excavated, it is not possible to say if the arrangement of the buildings corresponded to any marked degree. Lacock and Burnham are very similar on plan, but the older foundation at Goring,³ which was attached to an existing parish church, seems to have been quite different in its arrangement. In the year 1535 Burnham was included in the list of lesser monasteries whose revenues did not amount to £200 a year, and the report of the Commissioners at that time is as follows:

“The Monastery of the Order of St. *Austin*, value £51 2s. 4d. Nunns 9; Incontinent none; all desire to go unto Religious Houses. Servants 37, whereof Priests 2, Hinds 21, Women 14. Bells and Lead worth £40 16s. 8d. The House in good Estate. The value of the moveable Goods £45 17s. 9d. Stocks and Debts none. Woods 160 Acres; whereof in Woods under 20 Years Age 80 Acres, old Woods 80 acres.”⁴

Accompanying the report is a letter from the Commissioners commending the religious to the King's favour, as a result of which they were allowed to continue. The licence for this is dated 9th July, 29 Henry VIII. (1537), and states that Alice Baldwin is to be abbess in place of Margery Gibson, resigned.⁵

The general suppression followed in a few years' time, and Burnham was dissolved on the 19th September, 1539. The deed of surrender is signed by the abbess and

¹ *Notitia Monastica*, preface, lv. These are Harwold, Bedford; Burnham, Bucks; Cornworthy and Leigh, Devon; Acornbury and Lymebrake, Hereford; Dartford, Kent; Grace Dieu, Leicester; Crabhouse, Norfolk; Rothwell, Northants; Goring, Oxford; Buckland, Somerset; Campsey and Flixton, Suffolk; and Lacock, Wiltshire.

² In *Wilts Archaeological Magazine*, xxxi. 196-240, is a paper by the present writer, on Lacock Abbey, accompanied by a ground plan to the same scale as

that illustrating this account, with which it can be compared.

³ *Goring*, by P. G. Stone, F.S.A. (London, 1893), facing p. 30, has a plan of Mr. Stone's excavations on the site of this priory, which shows a much larger group of buildings than would be supposed to have existed from the number of inmates.

⁴ Browne Willis, *The History of Abbies* (London, 1719), ii. 16.

⁵ Patent Roll, 29 H. VIII. Pt. 1, m. 19.



nine canonesses, and bears the seal of the abbey in red wax.¹

The seal² (opposite) represents the Coronation of the Blessed Virgin. The figures of Our Lord and Our Lady are seated under a double crocketed canopy with pinnacles over, and beneath are the arms of the abbey, *three lozenges on a chief*.³ The whole is surrounded by a band, of which the upper part is covered by the tops of the canopies, but the lower portion bears the inscription :

SIGILLVM CONVENTVS MONIALIVM DE BVRNHAM.

There are four letters on the portion of the band behind the canopies, but illegible. There are also the letters S and M on either side the arms. The seal is a good example of the time of the foundation. The arms are similar to those of the Molyns family, one of whom, Sir William Molyns, gave to the abbey the manor of Silveston in Northamptonshire about 1338.⁴ The arms are strongly suggestive of some connection between the abbey and the Molyns family.

After the suppression, the site, with the barns, stables, dove houses, orchards, and gardens included in the precinct of the abbey, were leased by the Crown upon the 20th November, 1539, to William Tyldesley, for twenty-one years.⁵ It is probable he altered some of the monastic buildings to form a dwelling house, as he was living at Burnham Abbey in 1561. After the expiration

¹ The original is in the Public Record Office.

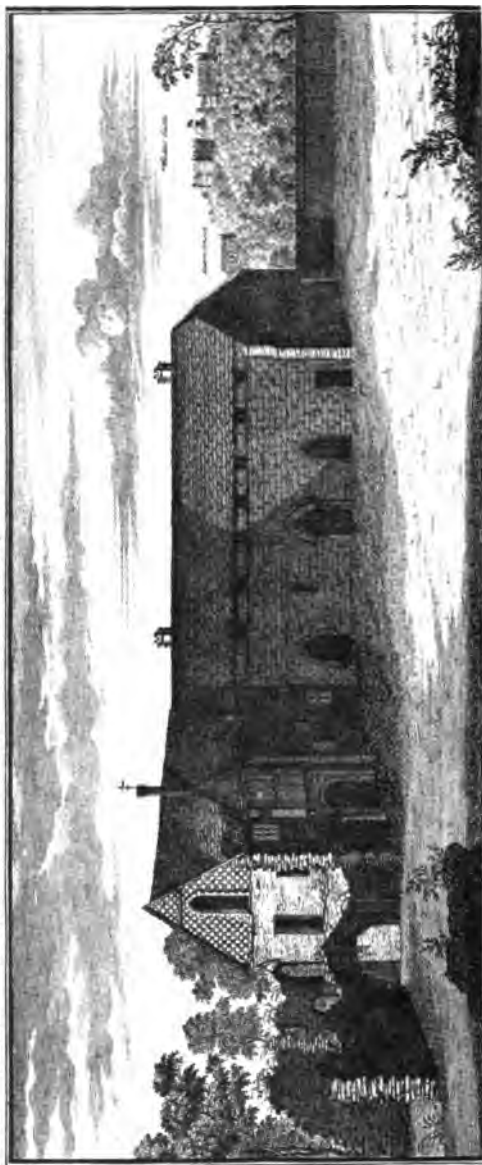
² Lipscombe's *History of Buckinghamshire* (London, 1847), iii. 210, gives a poor woodcut of this seal, and the inscription, which is perfectly legible, is not correctly copied.

³ Browne Willis, *The History of Abbeys*, ii. 18, gives these, but without stating his authority as "*Or on a chief Argent, 3 Lozenges Gules.*"

⁴ Sir W. Dugdale, *The Baronage of England* (London, 1676), ii. 147.

⁵ P.R.O., *Augmentation Office Book* 212, f. 201.

THE WEST VIEW OF BURNHAM-PRIORY IN THE COUNTY OF BUCCLES.



THIS Priory for Benedictine Nuns was founded by Richard K. of the Romans and Dedicated to God, & St. Mary's Ann: 1166. He also endow'd it with the Manor and Advowson of Burnham, and several other Lands adjacent, through to whose Charter of Foundation were his Brother K. H. III. Prince Edward his eldest Son, and many others. It was dissolved by K. H. VIII. at 57. 2. 2. Dugd. p. 5. 2. Speed 987. 11. The present Owner is the Earl of Goring.

of the lease the property was let to Paul Wentworth, who renewed his lease for thirty-one years on 14th July, 1590.¹ He also carried out alterations to the buildings, and, according to Cole,² "turned the Nuns Hall, which was open to the Tiles, into a smaller Room and made Chambers over it." The property continued to be let on leases to various persons until 1840, when it was sold to a Mr. Pocock.

When the old house fell into decay is not known, but it must have been before the beginning of the eighteenth century, as Browne Willis,³ writing in 1719, says :

"The Mansiou House of the Convent seems to be entirely standing ; 'tis built in shape of an L, and made use of to hold Husbandry Implements, viz. Corn, Hay, &c., the Tenant dwelling in a little House near it, where probably the chief Hind antiently lived. I cou'd learn no Account of the Church, viz. when it was pulled down."

From this period there exist, fortunately, an interesting series of views of the ruins. The earliest is that of S. and N. Buck, dated 1730, which shows the remains in the condition described by Browne Willis.

Two drawings were made in 1787 by S. Hooper. The first is taken from the north-east, and shows the west gable of the frater with a continuous wall from the frater to the north-east angle of the kitchen, slightly more ruined than in Buck's time, in which is a square doorway outside the line of the frater and a pointed window to the north of it. The second is taken from the south-east, and shows the chimney of the domestic hall standing, also an arch in a wall in line with the south wall of the frater.⁴

In Dugdale⁵ is a good steel engraving from the south-west showing the two sides of the cloister, from a drawing by J. Buckler. The west gable of the frater and part of the hall chimney were then standing, and

¹ *Papers Dom. Eliz.*, CCXXXIII.

² *Brit. Mus.*, Cole's MS. XXXII, f. 38b.

³ *The History of Abbies*, ii. 16.

⁴ These two drawings are reproduced

as illustrations in Vol. v. being the *Supplement to the Antiquities of England* (London, 1777), by F. Grose.

⁵ *Monasticon Anglicanum* (London 1830), vi. 545.

the roof of the dorter remained to half across the warming house.

In 1834 Dr. William Bromet, F.S.A., made four excellent coloured drawings of the remains, which, with many others, were left by him to the Society of Antiquaries of London in 1850. By the kind permission of the Society the two most important are here reproduced, and will be referred to in detail later. The others are, first, the north end of the eastern range showing the door from the dorter to the reredorter, with its head remaining, and the second, an unfinished sketch of part of the precinct wall.

A number of other early drawings are known, but they all show the features illustrated by those already described, and need not be particularised here.

As will be seen by Dr. Bromet's drawings, the ruins have suffered very severely since his time; but they still contain a number of features of great interest, so much so that at the beginning of last year it was considered by certain members of the Buckinghamshire Archaeological Society that excavations should be made on the site. The writer of this paper was asked to superintend the operations, and a week was spent in the task; but the result was not so satisfactory as had been hoped. The site among farm buildings in daily use is not the most advantageous for investigations of this nature, and the western part of the church, with the western range and kitchen (now under labourers' cottages) had to be left unexplored. For all that, the excavations have revealed sundry points of great interest, including the foundations of the eastern termination of the church, the south end of the infirmary hall, and the north wall of the frater, a result which was well worth the small expense incurred.

THE PRECINCT.

The original precinct of the monastery is still clearly defined on all but the south side, and is roughly in the form of a square containing $7\frac{1}{2}$ acres, with each side facing the cardinal points.

Immediately within the boundary on the east and west sides is a deep ditch; but if one ever existed on

the south it has been entirely filled in. On the north side the two ditches were connected by the great drain of the convent at a distance of about 50 feet from the boundary. No indication remains to show how the drain was supplied by water, but it was probably taken in ditches, now filled in, from the higher ground on the north.

On the north and east sides the precinct is now enclosed by a thick cob wall with tiled top, of considerable age, that may be part of the monastic enclosure. The principal buildings of the convent were placed in the northern part of the precinct, but to the south of the drain. They surrounded, as usual, a square court or cloister, and the church was on the south side, with the infirmary to the east. The outer court would be to the west; but the buildings in connection with it¹ have entirely disappeared, except the fragment of the north-east angle of one, to the south-west of the church. Its position, in an ornamental garden, prevented any investigation of its nature by excavation. The lease to Tyldesley, already referred to, mentions the barns, stables, and dove houses, also orchards and gardens within the precinct.

The main gateway of the convent was probably at the north-west angle of the precinct upon the present road from Burnham village to Boveney.

The whole of the original buildings are constructed with flints and chalk, and are faced in a rough checker pattern. The dressings are of a very hard chalk bed that has withstood the weather remarkably well; some of the stones, even externally, still show the original tooling. The infirmary, which is slightly later in date than the other buildings, is faced with small pieces of chalk without flints. None of the original roofing material was found in the excavations, but was probably of red tiles, as a number of these are used in the original

¹ Among other buildings these would embrace the following, which are included in the suppression inventory of the sister house at Belton in Leicestershire, namely, "The Brew House, Yele House, Laundrye, Saulte House, Bake House, Kyle House, and Smythes Forge." (Nichols's *Hist. of Leicester-*

shire, iii. Pt. 2, 653.) In addition, such buildings as a Barn, Garner, Cow House, Swine Cote, Dove House, Guests' Stable, Coal House, and "a house to lay turves in," frequently occur in similar inventories of other nunneries, and must have been in the outer court.

walls in various places. The upstairs floors were all constructed in wood, and there are no indications that any of the buildings were vaulted. No encaustic tiles or other original flooring materials were discovered in the excavations. The additions after the suppression are mostly built in brick, except the hall fireplace of Paul Wentworth's alterations.

THE CHURCH.

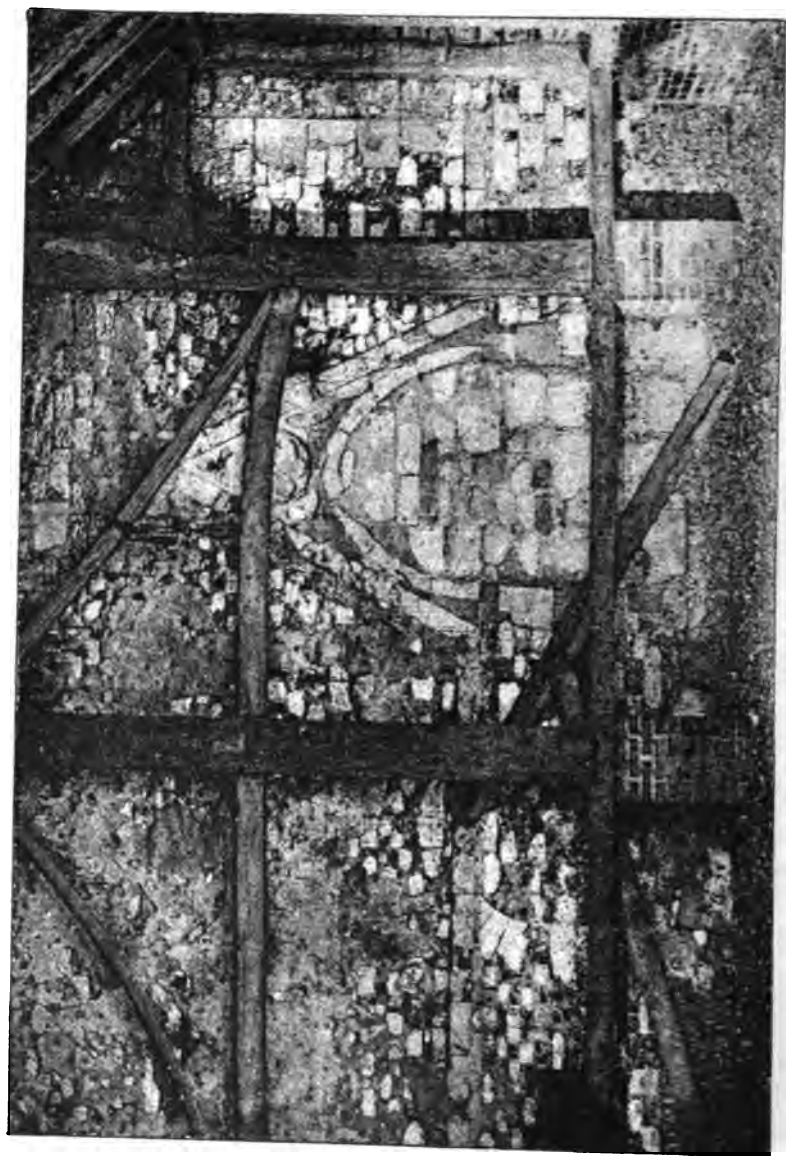
The church occupied the south side of the cloister; but has been entirely destroyed above the ground level, excepting a small portion of the north wall in connection with the range of buildings on the east side of the cloister. The foundations of the whole of the east end have been traced by excavation; but it was not considered worth while to continue the investigations to the western part of the church, as the present occupier sank a pit some years ago on the site of the north wall, and found nothing.

The church was an aisleless parallelogram, like that of the sister house at Lacock, and if the west end was in a corresponding position, measured $108\frac{1}{2}$ feet in length by $26\frac{1}{2}$ feet in width.

The east end had at each angle double buttresses that projected about $3\frac{1}{2}$ feet from the walls.

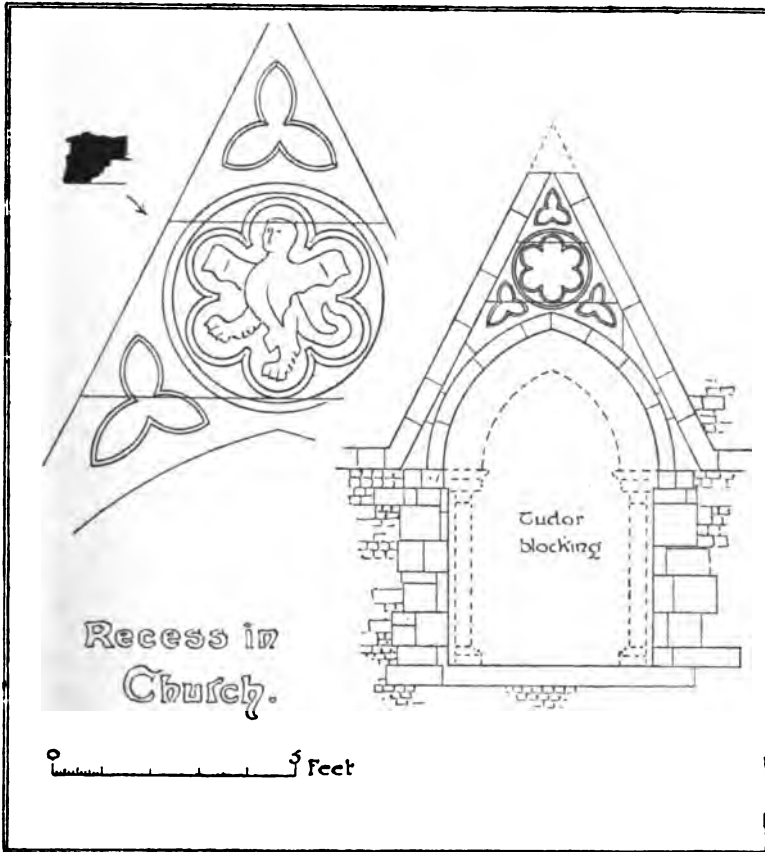
The remaining fragment of the north wall is standing to almost its original height, and contains, immediately to the east of the eastern range, the jamb of a tall window. It was apparently of two or more lights, and had moulded mullions, with one moulded order outside and a column with moulded base in the angle of the internal splay. Its sill was about $5\frac{1}{2}$ feet above the ground, and under it internally was a continuous string course.

At 17 feet from the east end of the church is a recess in the wall having a plain shallow sill about 18 inches above the floor. The jambs seem to have had nook shafts, with moulded caps and bases, and supported an arch, springing from the level of the continuous string course, and having over it a label with moulded terminals. Over the arch the string course is taken up



REMAINS OF NORTH WALL OF CHURCH.

in a steep pediment,¹ in the centre of which is a sexfoil contained in a circle, and small trefoils occupy the spandrels formed by the pediment and circle. The back of the sexfoil retains a contemporary painting, in outline, representing a nondescript animal with a man's head,



bat's wings, leopard's claws, and a curled tail. A canopied recess in this position is unusual and its use is uncertain. It resembles in a marked degree a recess, of a later date, in a corresponding position in the parish church at Amesbury, Wilts, which is claimed by some, but without any warrant, to have been that of the nunnery.

¹ The whole of the projecting mouldings are cut off in line with the wall, and all the recessed portions filled in

flush with the wall. The sexfoil was opened out by the writer with the permission of the tenant.

To the west of this recess is an archway with a round head, which was walled up while the original work was in progress, as will be seen by the continuous string course cutting across the arch. Its purpose was only a temporary one while the building works were in operation, and it was probably a barrow hole through which to take material.

Further westward are the remains of a trefoil-headed niche inserted in the original wall, but of not much later date. In Buck's view it is shown perfect, and was probably for a lamp or possibly a drain down which to empty what was left over of the holy water after the Sunday procession.

Slightly eastward of this niche, but 10 feet above the string course, is a hole in the wall, now filled with brickwork, which marks the end of a top beam of a screen that crossed the church at this point. Above it to the west is a doorway with a four-centred head, inserted in the fifteenth century, that led from off the dorter stairs either to a wooden loft over the screen or a *pulpitum* arranged between it and another cross screen further west.

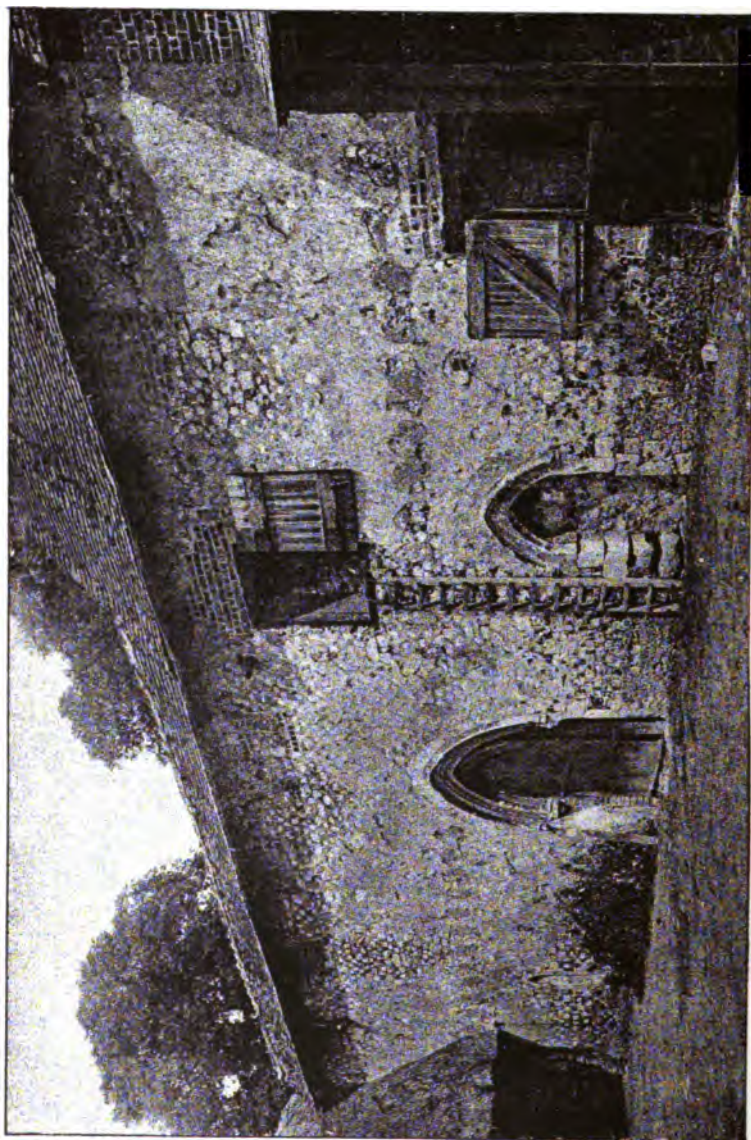
There would be two doorways from the church to the cloister, and possibly an entrance at the west end.

So little is known of the arrangement of small churches for nuns that it is difficult to say if the *pulpitum* was as necessary for them as in those for monks and canons. If this church had a *pulpitum* over two cross screens as suggested, there would be an altar on each side of a central doorway of the western screen, which seems to have been the arrangement at Lacock.

One of the flanking altars at Burnham was dedicated in honour of St. Catharine, but whether it was that to the north or south is not known.¹

Between the easternmost cross screen and the recess in the north wall of the church is space for four stalls, and against the south wall opposite would be an equal number. There would also be three stalls on either side the quire door facing eastward, making in all fourteen seats. Though this number of stalls is small in proportion

¹ *Collectanea Topographica*, viii. 125.



THE PHOTOGRAPHIC SURVEY OF LONDON

EAST SIDE OF CLOISTER.

to the number of inmates judging from some other examples,¹ it is impossible to ignore the evidence of the cross screen, and this, with the recess on the north side, would completely prevent the quire from being larger. It is just possible that the recess was walled up in later but monastic times, and additional stalls carried in front of it.

The mention of bells in the suppression survey leads to the supposition that there was a belfry, but whether it was in connection with the church or detached, or whether it was built of stone or wood, is impossible to say.

THE CLOISTER.

The cloister court was 72 feet square, and surrounded by covered alleys having wooden pentice roofs; the blocked up holes for the timbers of which remain all along the east side. Whether the roofs were supported next the court on stone walls or wooden posts there is nothing to show.

The alleys of the cloister were originally the living place of the convent, where the inmates read and studied, and in many places they remained so to the end; but in nuns' houses it appears that the order was relaxed and a more comfortable place provided. As will be afterwards referred to, the parlour and warming-house were often one building, and had bay windows, which would be hardly necessary if strictly used as a parlour or warming-house. At Kirklees there were "v. litle chambres for the ladyes and others to work yn,"² and at Esholt "at the southe end of the dorter iij little parlors, called the laydes parlors, whereof two hathe eyther of theym a stone chymney and a glasse wyndowe and the thirde parler a glass wyndow."³

¹ *Yorks Archaeological Journal*, ix. 197-216, and 321-333. At Kirklees, where there were eight nuns, there were "xxij stalles in the quere for the nones." At Nunkeeling, where there were eleven nuns and a prioress, were "xxij fayre stalles carvid and bourded wt waynescot," but at Thicket, with eleven nuns and a prioress, were "xvj

stalles in the quyre," and at Wilberfos, with the same number of religious, "xvj goode stalles in the quere for nonnes," which is about the same proportion as at Burnham.

² *Yorks Archaeological Journal*, ix. 331.

³ *Ibid.* ix. 324.

THE VESTRY.

On the east side of the cloister and adjoining the church is an apartment 22 feet from north to south by 16 feet wide. It was entered from the cloister by a segmental-headed doorway that has lost its outer member. Inside the doorway was a square lobby, under the dorter stairs, with a second segmental archway into the apartment itself.

This was lighted by two lancet windows, in the east wall, of which one remains perfect.¹ It has internally a pointed segmental rerearch of two hollow chamfers, and externally the jambs and arch have a double hollow moulding, with a wide relieving arch over the latter.

The barrow hole from the church shows in the south wall; but there are no indications of any original fittings.

The use of the chamber is uncertain, but it possibly was the vestry.² It corresponds with a similar apartment at Lacock, which has two chapels in its eastern part projecting beyond the line of the range, and a cupboard in its south wall.

In the cloister northward of the vestry door is another doorway, having a single chamfered member with pointed segmental head, that led to the dorter stairs. The stairs, which were apparently of wood, have disappeared, but they were arranged to run up southward between the main wall of the range, and a thin wall forming the west side of the vestry.

THE CHAPTER-HOUSE.

Adjoining the vestry northward was the chapter-house, an apartment 33 feet long from east to west and 20 feet wide.

It was entered from the cloister by a wide pointed archway of two members inside and out. Externally

¹ The second has been entirely obliterated by post-suppression insertions, which consist of a doorway, with a four-centred brick head, next the church; a fireplace, in the centre of the wall, that has been destroyed together with its projecting breast; and a two-light window, having four-centred arched heads, to the north.

² At the small Benedictine nunneries of Little Marlow in Buckinghamshire and Kington in Wiltshire the chapter-house adjoined the church without any building in this position, and this seems to have been the more usual arrangement.



IMP. PHOTO. C. PRATT & S. L. LONDON

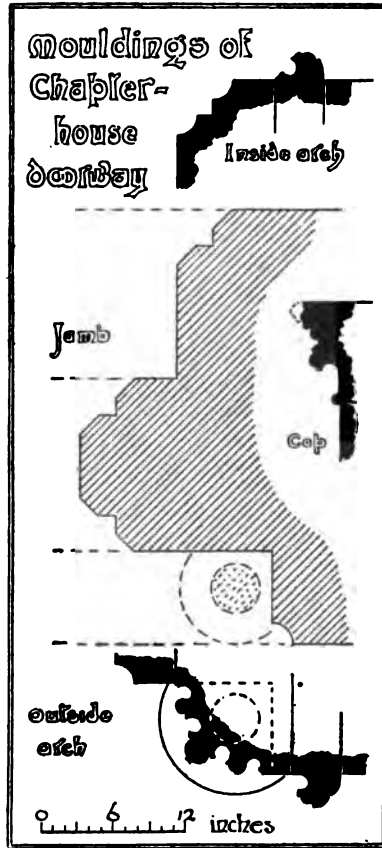
ENTRANCE TO CHAPTER-HOUSE.

the inner member is of two chamfers, hollowed in the arch and plain in the jambs; the outer member is moulded and rested on jamb shafts having moulded caps and bases, and has a moulded label with mask terminals. Internally both members are similar to the external inner member, and the arch has a moulded label which returns at the springing.

The east end of the apartment projects 11 feet from the range wall, and is now covered by a modern lean-to roof. Whether this arrangement of the roof is original or whether there was a gable over the east end forming an extension of the dormer there is nothing to indicate.

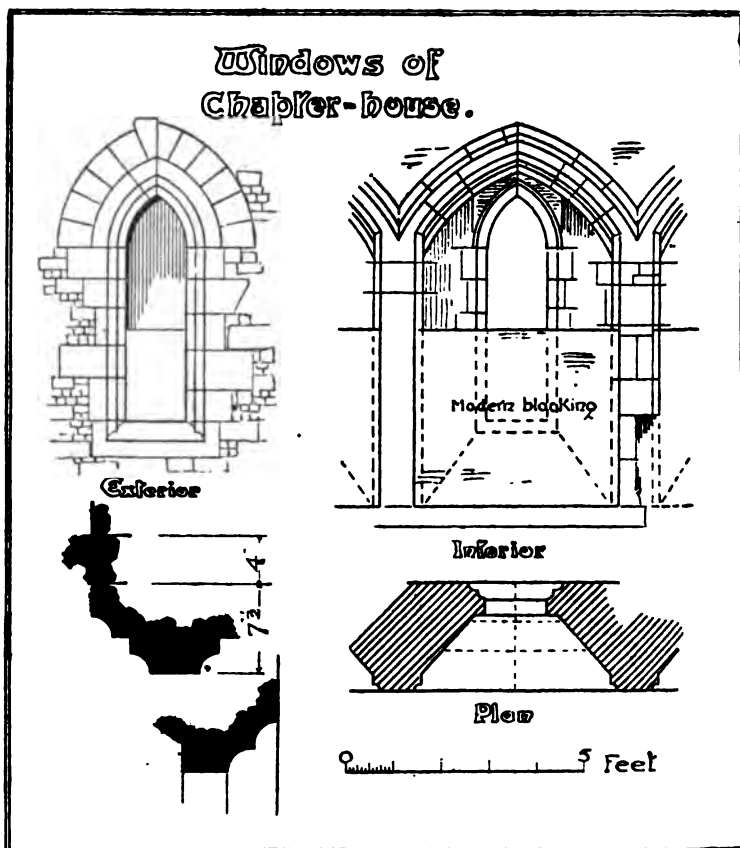
The apartment was lighted by three lancet windows¹ in the east wall, and a single lancet in the projecting portion of the south wall. These windows have pointed segmental rerearches of two hollow chamfers under a moulded label, and externally the jambs and arches have a double hollow moulding with a deep relieving arch over the latter.

The side and east walls would originally have had seats for the convent to sit on during chapter, which was held daily after prime; but no indication remains to show if these were of wood or stone.



¹ These have been filled up to within 20 inches of the springing. The side windows have had the sills destroyed

by the insertion under each of a small square post-suppression window, low down.



THE PARLOUR AND WARMING-HOUSE.

Northward of the chapter-house is an apartment 48½ feet long from north to south by 22 feet wide, of which the east wall has been mostly destroyed.

The west wall had near the middle a wide doorway from the cloister, which is shown perfect in Buck's view; but has now been destroyed by the insertion of a modern square door, except the inner north jamb and the springers of the relieving arch on the east face. To the south is a small lancet window with side splays and a segmental rerearch with deep relieving arch over.¹

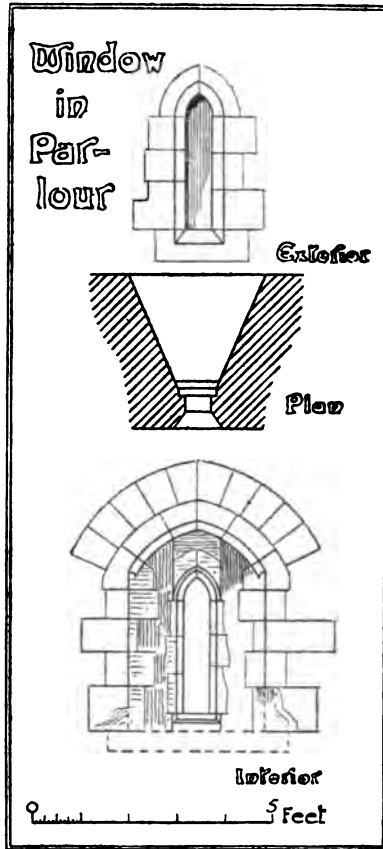
¹ At the extreme north end of the wall is an inserted post-suppression doorway.

The north wall has near the middle a small doorway with chamfered jambs and double chamfered segmental arch with relieving arch over.¹ To the east is a locker having an oak head and sill and a rebate for a door.

The east wall remains, in its lower part, for about 13 feet from the north end, and has the indication of the original fireplace, which had a projecting breast on the east side to take the chimney.²

The apartment has apparently served the double purpose of warming-house and parlour; but whether divided by a partition into these two necessary chambers is not clear. There must also have been a way across it to gain access to the infirmary. Though in larger houses the parlour, where such talking as was necessary was allowed, and the warming-house, where a fire was kept all the winter for the inmates to come and warm themselves, were distinct buildings, there is evidence that in small establishments they were combined in one room.

At the Cistercian Nunnery of Kirklees³ there was "a parler under the dorter xvijj foote square w^t a chymney, ij bay wyndowes glased conteyning xxx foot of glasse." At



¹ To the west of this doorway is a late square-headed wooden window of post-suppression insertion.

² Between the fireplace and the north end was an inserted post-suppression window which has been nearly all

destroyed, and at the other end of the wall adjoining the chapter-house are the remains of a fireplace of the same date.

³ *Yorks Archaeological Journal*, ix. 381.

Esholt¹ of the same order, there was at the south end of the dorter range "a ffayre parler. . . . and hathe in it a ffayre chimney of stone. . . . and hathe in it a fayre bay window glazid. . . . and hath a door w^t lok and key." And at the Benedictine Nunnery of Thicket² was "the new parler at the seid west parte by the churche doore, xxiiij foote longe and xx foote brode, w^t one baye wyndowe glazid conteynyng xxx foote of glasse, and iij other little glasse wyndowes, and tymbre walls w^t a chymney."

In none of these cases is any other chamber mentioned that could have been the warming-house distinct from the parlour.

THE DORTER.

Upon the first floor over all the buildings on the east side the cloister was the dorter or sleeping place of the canonesses. It was 95 feet long by 22 feet wide, and it may also have extended over the projecting portion of the chapter-house.

It was approached by the steps already described on the west side of the vestry, at the top of which is the later inserted doorway on to the *pulpitum* in the church.

The side walls were pierced by small lancet windows, having chamfered jambs and arches, of which one remains perfect on the east side over the vestry.³ There are gaps⁴ for seven similar windows in the wall over the cloister.

The north wall had in the middle a small doorway with chamfered jambs, of which the lower part remains. The head of the doorway and the gable over have been destroyed; but the former is shown remaining on one of Dr. Bromet's drawings, and was in form a pointed segment.

The roof would have been originally constructed with arched rafters, but that still remaining on the portion

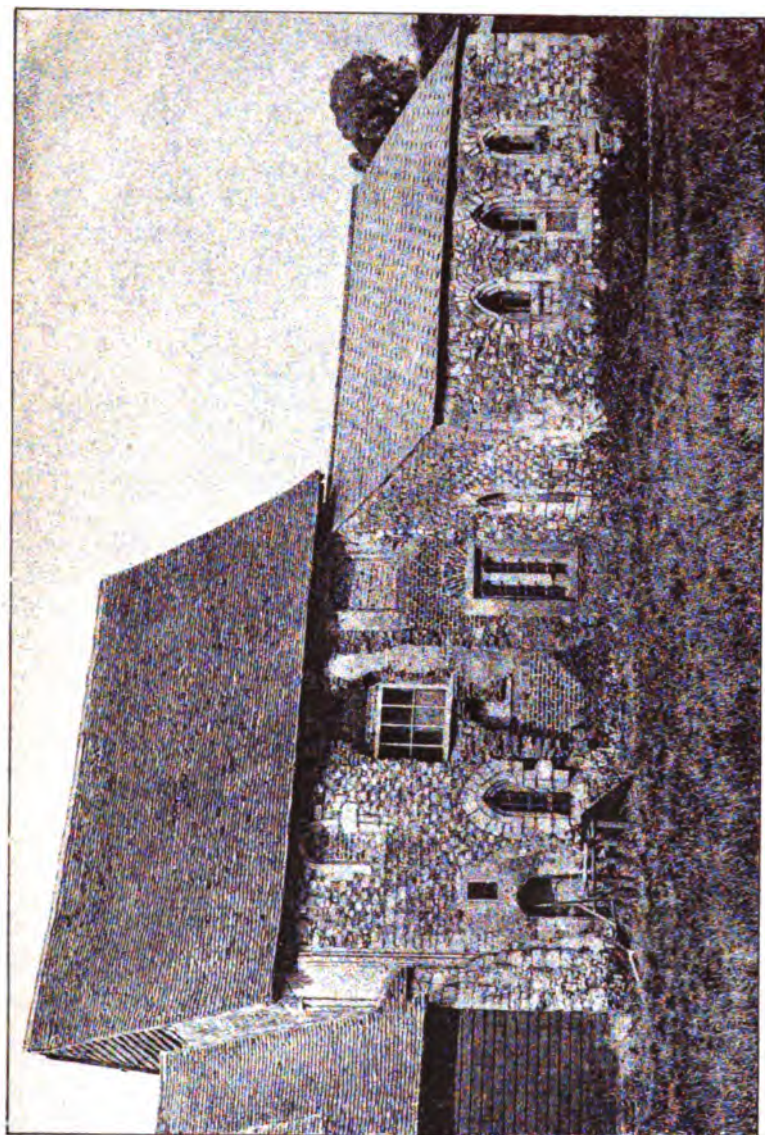
Yorks Archaeological Journal, ix. 324.

² *Ibid.* ix. 202.

³ To the north of this window up to the chapter-house the wall has been destroyed by the post-suppression in-

sertions, which consist of a fireplace over that beneath and a two-light window of similar character to that below, but the latter has been partly destroyed and walled up.

⁴ Now walled up with brickwork.



EAST SIDE OF DORTER RANGE.

above the vestry is of considerable age, and dates apparently from the fifteenth century. The principals are formed with chamfered tie beams and queen posts with a chamfered beam from centre to centre of the tie beams to carry a ceiling. There are two purlins on either side, supported by curved wind braces. Buck's view shows this roof remaining for the full length of the range, but in a view of 1787 it only remained to about the middle of the warming-house.

The dorter floor was constructed with wood supported on beams and joists, which formed the ceilings of the lower apartments.

THE REREDORTER.

At the north end of the eastern range is a building on plan like the letter L, of which the upper floor, level with that of the dorter, was the reredorter of the convent.

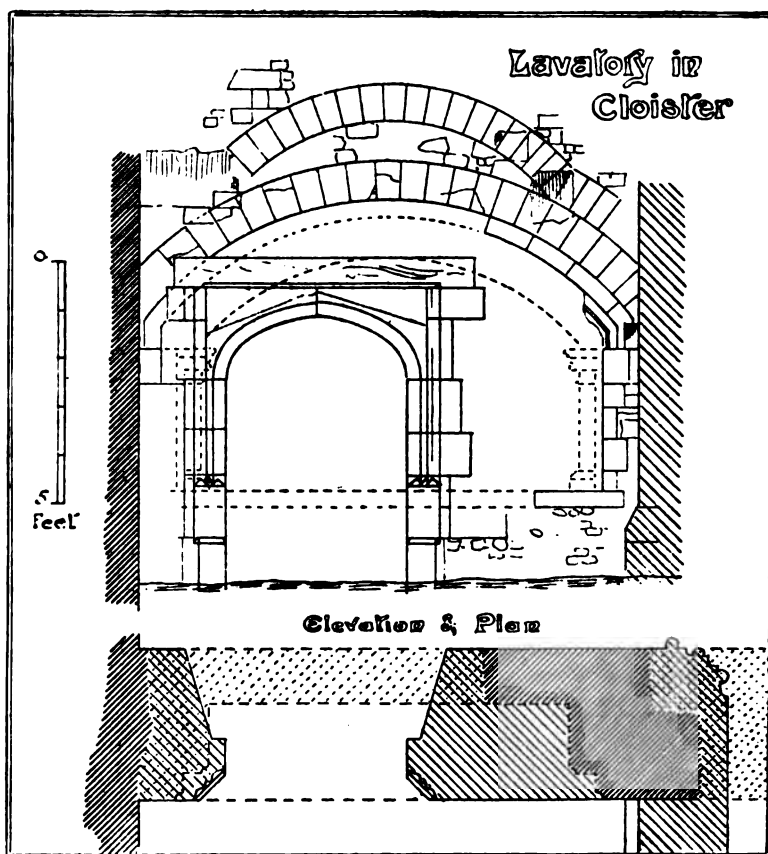
The southern portion in line with the eastern range is $11\frac{1}{2}$ feet wide by 25 feet long, and the rest, set slightly out of square with it, over the great drain, is $25\frac{1}{2}$ feet long by $7\frac{1}{2}$ feet wide. This plan is unusual, but resembles that of the reredorter lately uncovered at the small Benedictine Nunnery of Little Marlow.¹

The lower storey was connected with the warming-house by the doorway already described, and the southern portion was apparently used as a fuel store to supply the warming-house fire; though how it was divided from the rest, which must have been nothing but the pit of the reredorter, is not clear. In the west wall are two small lancet windows, the northern of which is original, but the southern is a little later in date, and has been inserted in a round arched doorway.² The east wall has a wide gap in the middle, now built up, which may mark the existence of another doorway for the bringing in of fuel, after that in the west wall was done away with. The walls of the northern part are quite plain, and were carried over the drain upon arches constructed with thin red roofing tiles.

¹ *Archaeological Journal*, lix. 320.

² There is a small square wooden window of post-suppression date over drain.

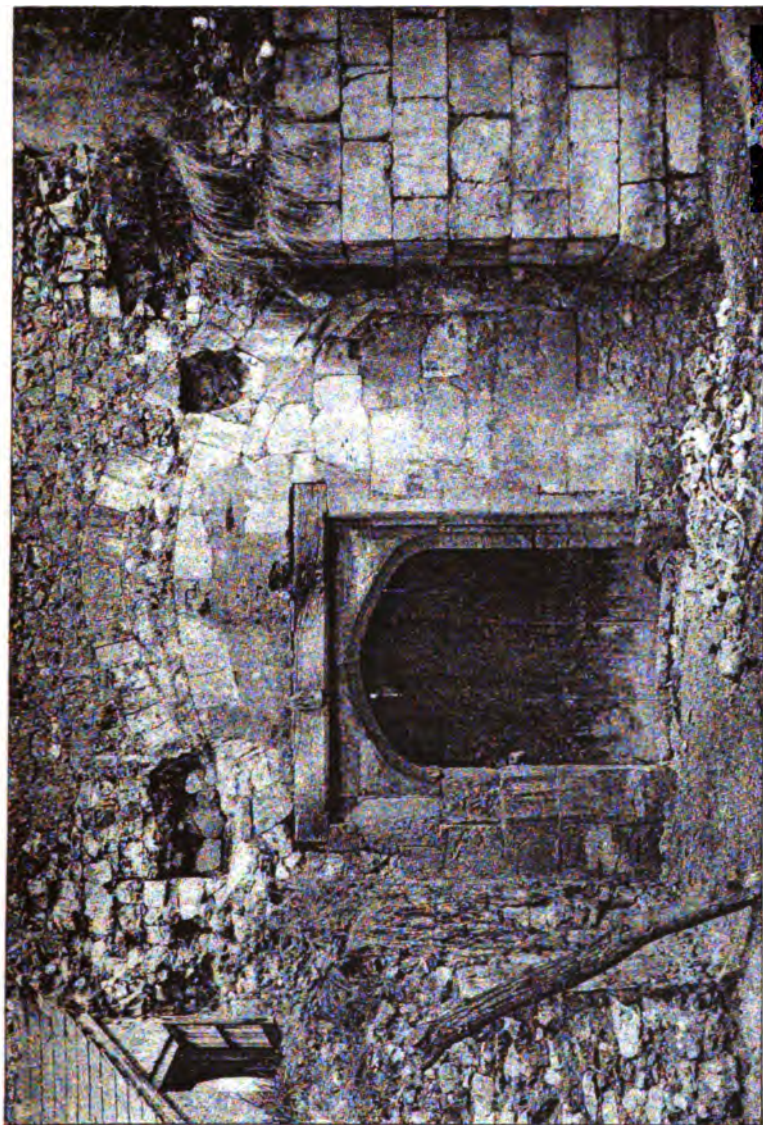
The reredorter was connected with the dorter by the doorway at the north end of the latter already described; but the side walls do not remain to sufficient height to show how it was lighted.¹ The southern part must have formed a vestibule between the dorter and reredorter proper, which was contained in the northern



portion, over the drain. The wardrobes were placed along the north wall over this drain, and doubtless, as at Durham, "Every seat and Partition was of Wainscott, close on either side, so that they would not see one another when they were in that place."²

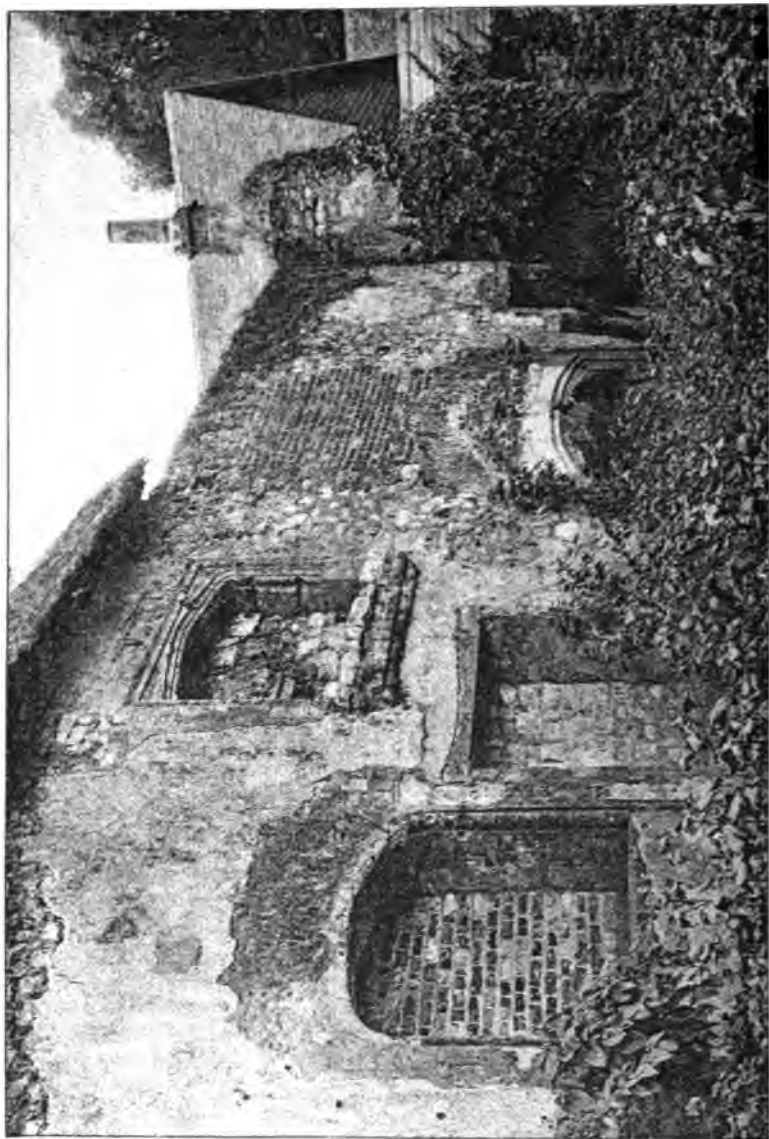
¹ There is a sill of a window remaining in the east end of the portion over the drain, but it appears to be of post-suppression work.

² *The Ancient Rites and Monuments of the Monastical and Cathedral Church of Durham*, published by John Davies (London, 1672), 134.



THE PHOTOGRAPHIC ARCHIVE

REMAINS OF LAVATORY IN CLOISTER



THE SOUTH WALL OF THE FRATER, SHOWING POST-SUPPRESSION INSERTIONS.

SOUTH WALL OF FRATER, SHOWING POST-SUPPRESSION INSERTIONS.

In the north wall of the cloister, at the extreme west end, is a wide segmental arched recess,¹ having a bold relieving arch over and another of smaller radius above. This formed the lavatory where the convent washed their hands and faces before meals.

It has been much injured by later work, but apparently had a moulded arch with label over resting on short, detached columns in the jambs, having moulded caps and bases. A portion of a shallow sill remains on the east side, which shows that the basin was in the thickness of the wall.

THE FRATER.

The frater or dining hall of the convent occupied the whole of the north side of the cloister; but was on the ground floor, and not over cellarage, as was more usual.

It was 72 feet long from east to west by 18½ feet wide, but the north and west walls have been mostly destroyed within comparatively recent years.

The south wall has, immediately to the east of the lavatory, a fragment of the inner relieving arch of the entrance doorway from the cloister. The rest of the wall is devoid of any original feature, and does not seem to have had any windows in it above the cloister roof.²

The east wall was blank.³

The north wall remains for a few feet in connection with the east end, and the foundations were traced nearly to the west end, but showed no projection for

¹ This was walled up at the suppression, and a wide doorway having a four-centred arch with moulded jambs and a wooden lintel, inserted in the western part. According to Buck's view, there seems to have been a timber built porch added outside, which had a room above. The holes for the side beams to support this work remain in the wall on either side the doorway. The porch was destroyed before 1787.

² The frater was altered by Paul Wentworth, who "turned the Nuns Hall, which was open to the Tiles, into a smaller room, and made chambers over it." The western part of the lower storey formed the hall of the

house, and had a large fireplace with segmental moulded head and projecting back, on the site of the old frater door. There was a doorway further east, and a window having a moulded brick relieving arch. Another window was at the extreme east end of the wall. The hall chimney existed until after 1787, but has now fallen down. The other features have all been walled up on the cloister side. The upper floor had a moulded brick fireplace, to a room, in the middle of the wall.

³ A doorway was inserted at its extreme north end after the suppression, and the wall was decorated in colour, part of which still remains.

a pulpit for the use of the reader at table. Dr. Bromet's drawing (Plate A) shows this work standing to its full height and retaining three of its original windows, which were apparently lancets, having moulded rere-arches with labels over that were continued along the walls between the windows at their springing.¹

The west wall remains for about 7 feet at its south end, but the complete gable is shown in Buck's view and that of 1787. It had a doorway in the middle on the ground floor, apparently for service from the kitchen, and a tall lancet high up of the original work.²

The west end of the building would be divided off to form a buttery about 11 feet wide. The door from the cloister would open as usual into the screens across the west end of the frater itself, and there appears to have been a loft over the screens and buttery.

Buck's view shows the roof remaining over all the frater, but it had disappeared before 1787.

THE WESTERN RANGE.

Of the range of buildings that occupied the west side of the cloister nothing remains except a fragment of the east wall in connection with the frater and a portion of the north wall in continuation of the south wall of the frater, enclosed in some modern cottages. This wall had in it an arched doorway at its east end, apparently for service from the kitchen to the guest house, and is clearly shown in Hooper's drawing of 1787. It is also shown in Buck's view, but the engraver has put it in the wall running south, which certainly has no such feature, and has omitted the wall running west altogether.

The uses of the various apartments this range embraced varied considerably in different houses, but generally it was of two stories in height, and contained the lodging of the superior next to the church, with halls

¹ In the remaining piece of the wall at the east end are traces of an inserted post-suppression window, and the view shows that there were three of these

square windows inserted in the original openings.

² There was a small square-headed doorway on the first floor, apparently inserted after the suppression.

Plate A.



BURNHAM ABBEY.—INTERIOR OF FRATER, 1830.

for the entertainment of guests beyond, which were served from the monastic kitchen.

At Lacock, where the whole of the lower part of the range exists entire, there was a square chamber next the church with a fireplace, a passage forming the cloister entry and outer parlour next, and a hall for inferior guests beyond. The upper floor contained the abbess's lodgings next the church with a small chapel over part of the cloister, and the rest was occupied by a large hall for superior guests.

At the small Benedictine nunnery of Kington in Wiltshire, where the cloister was on the south side of the church, the western range remains incorporated in a farmhouse. It consisted of a one-storied hall in the middle, with the cloister entry arranged within the screens at its south end. There is a small room to the south, called "the priests' chamber" as early as 1660, with another similar room above. At the north end of the hall was another room with a room above, and two small chambers projected beyond the line of the cloister, partly covering the west end of the church, and formed the prioress's lodging. A large vice occupying the north-west angle of the cloister connected the two floors.

At Burnham, owing to there being no cellars under the frater, part of this range was probably used for that purpose.

THE KITCHEN.

Except from analogy the site of the kitchen cannot be definitely fixed, but in all probability it occupied a position in line with the western range, from which it was separated by a yard to the west of the frater.

The writer remembers the north-east angle of a building existing some years ago at about 20 feet from the north wall of the frater incorporated in some cottages,¹ and by examining Buck's view it will be seen to have belonged to a building that, though ruined, was then standing to a considerable height. It appears to have had two lancet windows, at different heights, and

¹ This was removed about four years ago, when the cottages were re-built.

a doorway, in the east wall.¹ There was a gap in the south wall indicating the existence of a serving doorway or hatch. From this the food could be taken to the buttery door at the west end of the frater and to the doorway at the north end of the western range. There would probably have been a pentise along the west end of the frater to protect these serving doors.

A kitchen in this position is not usual, but is similar to that at Little Marlow. At the Benedictine nunnery of St. Radegund, at Cambridge, the kitchen was in this position, but formed a continuation of the western range without any court at the end of the frater. The kitchen at Lacock is at the west end of the frater, and immediately adjoins the north end of the western range.

THE INFIRMARY.

The monastic infirmary, or fermery as it was more usually called for shortness, was not only for the use of the sick, but, as its name implies, for the accommodation of the aged and infirm religious who were physically unfit to endure the rigorous life of the cloister. It was generally a detached group of buildings containing a hall, a chapel, and, in larger houses, a kitchen, perfectly distinct from the rest of the convent.

At Burnham the infirmary was to the east of the claustral buildings, and consisted principally of a hall 43½ feet long by 23 feet wide, placed north and south.² The whole of the north wall and part of the west still remains standing. The entrance was apparently in the west wall at the south end, and was connected by a pentise with the east side of the warming-house.

Of the west wall, the southern portion has been destroyed, but the foundations have been traced. The northern part remains to almost its full height, and contains two lancet windows.³ These are, externally,

¹ This is shown in Hooper's view of 1787, but it is not visible in Buck's owing to another wall being in front of it.

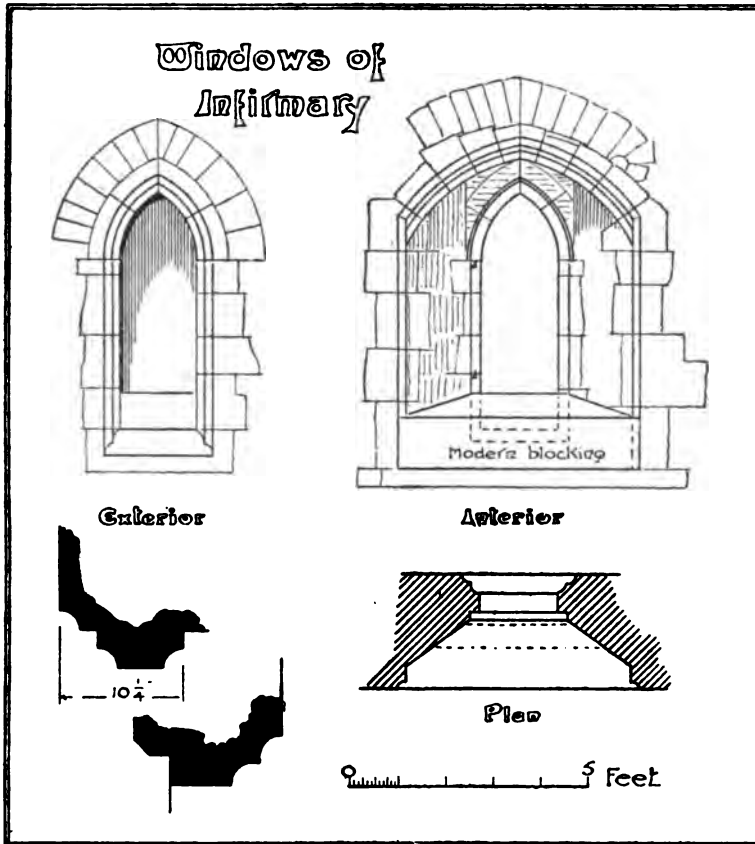
² After the suppression the infirmary was retained as part of the new dwelling house, and was then divided by a floor into two stories.

³ To the south of these windows is

an inserted square window of post-suppression date, now walled up with bricks on the inside. Connecting the infirmary with the warming-house is a post-suppression wall, in which, at the west end, is a walled-up doorway, and at the east a walled-up window. There is a modern doorway in the middle.

like those of the chapter-house, but slightly wider in the openings; internally they have wider splays, with a rebate for a shutter, and a relieving arch without a label over the rearch.

The north wall has at the extreme west end a small doorway with a pointed segmental head, of which the jambs and arch have a double roll moulding with a



fillet between. To the east of this doorway is a small locker with a rebate for a door similar to that in the warming-house.¹

The east wall has been mostly destroyed above

¹ Further east is a three-light brick window of similar character to that in the vestry, and over it is another

window of the same nature to light the first floor.

ground;¹ but was traced to its south end by excavation.

The south wall has now entirely disappeared except the foundations, but was standing complete as late as 1834. This is shown very clearly in Dr. Bromet's drawing (Plate B), and then had two original lancet windows in the lower part, with a blocked brick-lined doorway towards the east.² The gable above was standing to its full height, and it appears to have had originally a lancet in the middle, which had been destroyed by an inserted square window.

To the east of the hall would probably have been a small chapel, and perhaps a kitchen, but the foundations could not be traced satisfactorily owing to those of later buildings being found on the site.³

The doorway in the north end of the infirmary led to a building of which the west side and north end have been destroyed. The east wall remains, and had a window with wide internal splays in the centre of its length.⁴ There is a small recess for a lamp to the south. The north end of the building covered the drain of the abbey and was a wardrobe in connection with the infirmary.

As will be seen from the foregoing description, the buildings at Burnham, though small, are yet of considerable interest, despite the ravages of the despoiler in comparatively recent years. It is hoped that, now some attempt has been made to learn more of their original character and the uses they were put to by their builders, the ruins will be cared for in a better way than has been their fate in the past.

In conclusion, the writer wishes to tender his thanks to the present occupier of the premises, Mr. J. White,

¹ Adjoining the north wall is the breast of a post-suppression fireplace, in brick, at the back of which was a wall running east. There appears to have been a small window inserted between the fireplace and the north-east angle of the building.

² This doubtless was inserted to lead to a small projecting building on the south side, of which the foundations were found. It had the eastern part paved with tiles, and was apparently a privy.

³ These later buildings were all of

brick, and very difficult to elucidate. There was a wall running east in continuation of the south wall of the infirmary hall, and masses of brickwork and tile flooring to the north of it.

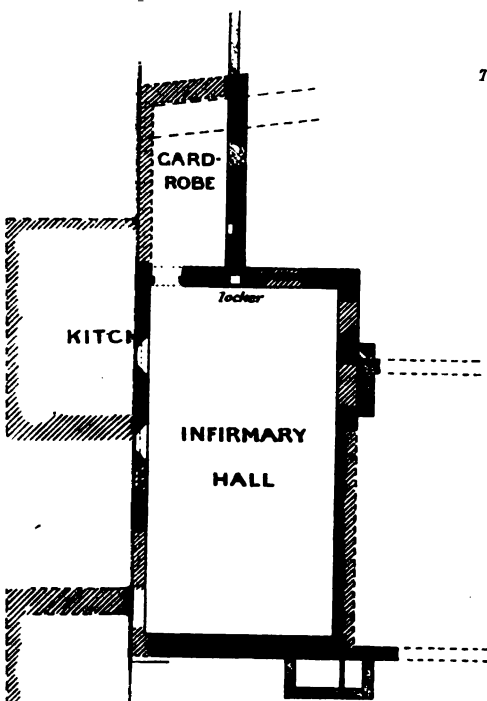
⁴ The exterior of the window has been destroyed, and the space filled up with brickwork. Running northward in line with the east wall of this building up to the precinct wall is a good brick garden wall with a four-centred arched and moulded doorway in the middle.

Plate B.

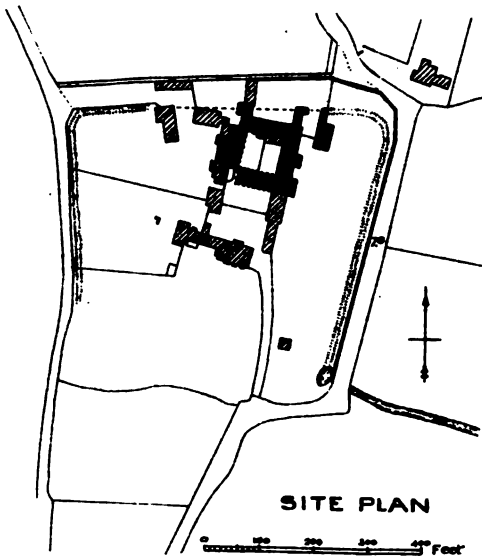







BURNHAM ABBEY.—VIEW FROM THE SOUTH EAST, 1830.

To face page 316 (after Plate B).



QUEST HOUSE



-  Original work
-  As destroyed
-  Water work
-  Tudor work
-  Modern

who has given every assistance to enable research to be made; to the Society of Antiquaries for permission to reproduce Dr. Bromet's valuable drawings; to Mr. William Brown, F.S.A., for the transcript of the suppression surveys of small Yorkshire nunneries which has been so constantly referred to, and especially to Mr. W. H. St. John Hope for help of various kinds in the preparation of this paper and overlooking the proofs before publication.

ROMAN ANTIQUITIES IN THE RHINELAND.

By BUNNELL LEWIS, M.A., F.S.A.

On former occasions I had the honour to read before the Institute memoirs treating of Roman antiquities in the Rhineland and adjacent regions. But the theme is far from exhausted, and I return to it with the hope of inviting attention to monuments that have received little or no notice from English archaeologists. The crisis through which our Church and nation are now passing, leads our thoughts to the Reformation, German as well as English, and some of the places I visited are more frequently mentioned in that connection than in any other. But I must pass on to the subjects with which we are more immediately concerned at present, and proceed to give some account of researches at Creuznach, Frankfurt, Worms, and Speier.

The Roman villa containing a great mosaic of gladiators is situated on the slope of a hill within a short drive from Creuznach; it was probably built about A.D. 300, and destroyed by the Germans a century later, so that it nearly synchronizes with the monuments which make Trèves of all cities north of the Alps the most attractive to the classical tourist. The ruins were gradually covered by landslips, and in the winter of 1893-94 laid open by the proprietor of the ground. The state-room of the villa measures 7 mètres 40 centimètres, by 6·72; and the adjoining apse, which contains the mosaic, 3·80 by 1·80.

This mosaic is nearly square, and a symmetrical arrangement prevails throughout. (*See illustration.*) A rectangle fills each of the four corners, in which we see a wild animal overpowering a tame one. The pairs consist of a panther and ass (*Waldesel*), a lion and bullock, a leopard and hog, a bear and stag. There are four arched compartments, one in the middle of each side of the square; all exhibit two gladiators fighting. That facing

the spectator contains a Samnite (*secutor*) and a *retiarius*; the former has the upper part of his body and his legs naked, and wears an apron round the hips; a helmet with visor on his head, and a shield supported on the right knee, are distinctly visible.

The adversary must be supposed to have cast his net, for it is not represented; with a spear, probably a trident, he is endeavouring to strike the Samnite's knee. His left arm is bandaged; this feature is better shown in the coloured plate, No. 11 of Wilmowsky's book on the Mosaic at Nennig. (See the copious explanations, pp. 8, 9 and 10 of the text, *Erklärung*, Tafel VI. "Die Gladiatoren mit dem Lanista.")

Proceeding from right to left, we observe that the other three compartments contain the following subjects: a Thracian contending with a Samnite; he has lost his shield, and seems to raise his right hand in an attitude of supplication, imploring mercy from the spectators or the exhibitor of the games.² Two *mirmillones* with

¹ Especially p. 9, *Retiarii* and *Mirmillones* (*μυρμύρος*, a fish for the crest on the helmet). Die ersteren scheinen ursprünglich im Fischfang geübte Küstenbewohner gewesen zu sein; die Andern sollen nach Festus ihren Helm von den Galliern entlehnt, und dieses die Veranlassung zu dem bekannten Lied der Retiarii beim Kämpfen mit den Mirmillonen: *Non te peto, piscem peto; quid me fugis, Galle? gegeben haben.* Netz und Harpune oder Dreizack passen wenigstens wohl zu dem Seefisch. This interpretation seems very plausible, but has been disputed. Baumeister, *Denkmäler des Klassischen Altertums*, 3 Band, Seite 2099, remarks that hitherto no example of the fish on the helmet occurs among the ancient monuments. An illustration, p. 2095 *op. cit.* shows both the net and the trident of the retiarius. The net is generally wanting; it appears distinctly in a small relief (Schieferrelief), which is said to be unique, found at Chester, *ib.* p. 2097, Abb. 2341. See Mr. Thompson Watkin's *Roman Cheshire*, p. 201 *seq.*, with woodcut. It was exhibited to the Society of Antiquaries in 1743, and is engraved in Lyson's *Magna Britannia*, ii. 431. Mr. Watkin notices the place of discovery. According to one account, "This sculp-

ture is upon a blue marble peculiar to the Isle of Man." It is engraved in *Vetusta Monumenta*, i. 65; but the stone has disappeared. Compare *Archæologia of the Society of Antiquaries of London*, "Representations of the Retiarius," xi. 48, pl. II. "Bas-relief found at London among the ruins of a house at Islington"; Vol. xviii. 203, 211.

Winckelmann, *Monumenti Inediti*, tom. iii. fig. 197, shows two scenes of the contest between the *retiarius* and the *secutor*. The plate is repeated and fully described by Baumeister, *loc. cit.* p. 201. There seems to be some inaccuracy in the drawing, the original of which Winckelmann had not seen, so that we cannot quote it as an authority with implicit confidence. *Monumenti Inediti*, Text, Parte Quarta, Capitolo X. *Gladiatori*, p. 259 *Reziarij*.

² Baumeister, *op. cit.* 2101, War der Verwundete nicht im stande den Kampf fortzusetzen, so hob er die Hand und erwartete die Entscheidung der Zuschauer ob er begnadigt werden oder vom Sieger sterben sollte. Scholiast on Persius, *Satire V.* 119, *Ostensione digiti veniam a populo postulabant.* Cicero, *De Consolatione*, fragm. 7, edit. Orelli Ciceronis Opera, vol. iv. pars. ii. 490. Tum autem quum

feathers on their helmets, and carrying small round shields, stand face to face. A helmeted gladiator thrusts with his lance; the other figure has for the most part perished.

With the subjects previously mentioned the following alternate: in each compartment a hunter (*venator*) pierces with his lance a dangerous quadruped, panther, boar, bear, or bull;¹ two of the men carry a piece of cloth, which would at the same time protect the forearm and irritate the beast.

Unfortunately the central picture of our mosaic, which is of course the most important, has suffered greater injuries than any other. It is enclosed by a circular border of scroll-work, surrounded by the usual cable pattern. Two hunters are engaged in a combat with nine animals. Of the one in the lower part of the medallion only the legs are preserved, of the upper only the right hand. Below them we see a stag, bull, and

amiserit carissimam filiam, victum se a fortuna turpiter confitetur: Cedo, inquit, et manum tollo: quoted by Laetantius, *Divinarum Institutionum*, lib. III. cap. 28, § 9; edit. Le Brun et Dufrenoy, i. 264.

The supplication for mercy reminds us of the case when the gladiator's request was not granted. For this branch of the subject we have an important passage in Juvenal. *Sat.* III. v. 37, edit. Ruperti, 1818, reads

“verso pollice vulgi
Quem libet occidunt populariter.”

Heinrich, 1839, has the same words with one exception, he substitutes *quum* for *quem*; Otto Jahn, 1851, has *vulgus* quem jubet; Buecheler, 1893, *vulgus cum jubet*. Here two kinds of difficulties present themselves. Some interpret *verso pollice* turning the thumb towards the spectator's person, others, down towards the ground. The reading *jubet* suits well with *populariter*, i.e. in *gratiam populi*; those who exhibit the games kill the gladiator in compliance with the order given by the spectators' gesture.

¹ Augustus exhibited hunts of wild beasts at Rome, as he himself informs us by an Inscription at Ancyra (hodie Angora). [*Venationes b[est]ia[rum] Africanarum meo nomine aut filio[rum] meorum et nepo[tu]m in ci[vi]t[ate] co*

*aut[i]n [f]oro aut in amphit[h]eatris popu[lo] d[omi]ni sedens et viciens, quibus [con]fecta sunt bestiarum circiter [tri]a [mill]ia et quingentae (Expansion). “Monumentum Ancyranum,” ed. Th. Mommsen, p. lii, facsimile, Latin, 4, 39-42; p. 65. After citing parallel passages from Dion Cassius and Pliny, he remarks on *amphitheatris*, crediderim vocabulum, quod hic primum opinor invenitur nec vere Graecum est, initio plurali numero solo usurpatum esse, cum essent amphitheatra tanquam theatra duo. Lipsius, *De Amphitheatro cum aeneis figuris Antverpiae, apud Christophorum Plantinum*, c.15, 15, lxxxv, Caput V. p. 19. To this work is appended *De Amphitheatris quae extra Romam libellus, in quo Formae eorum aliquot et typi*. Suetonius, ed. Burmann, 1736, ii. 156-159, *Monumentum Ancyranum ex Justo Lipsii auctario*, with Isaaci Casauboni, *Animadversiones*, pp. 161-166. This volume also contains many inscriptions, and engravings of coins, Tab. I-XXXIV.*

In the inscription above mentioned the animals are not specified; but this deficiency is to some extent supplied by the Seventh Eclogue of Calpurnius Siculus, vv. 58-63:

“Hic niveos lepores, et non sine cornibus apros,
Hic raram silvis etiam, quibus editur, alcen

boar, bleeding to death; to the right are a panther crouching, a lion standing, and a stag leaping; to the left a bear, who has broken off and holds fast the spear with which he had been wounded, and two stags leaping; half of one remains, but only the hind feet of the other.

The Creuznach mosaic did not impress me favourably at first sight; the colours are faded, not so bright as I have seen in our own and other countries. But, unlike many things and persons, the more we study it, the more it excites our admiration. The general design is one upon which our eyes rest with pleasure, as we survey harmonious composition surrounding a central group, while the details gratify our curiosity by the varied positions and gestures both of men and animals, as well as by the floral and geometrical patterns that decorate the interstices and borders. The spectator is not disgusted by the brutal faces of athletes as in the tessellated pavement from the baths of Caracalla at Rome,¹ or wearied with a monotonous

Vidimus et tauros, quibus aut cer-
vice levata

Deformis scapulis torus eminet,
aut quibus hirtae

Jactantur per colla jubae, quibus
aspera mento

Barba jacet, tremulisque rigent
paleas setis."

Alce is the elk described by Caesar, *De Bello Gallico*, VI. 26, as one of the most remarkable animals found in the Hercynian forest. *Deformis scapulis torus eminet* corresponds exactly with the hump on the buffalo, see the coloured plate in Cuvier's *Règne Animal*, Texte, Tome I. Mammifères, Ruminans, Les Bœufs, pp. 323-326, especially 324; Le Bison d'Amérique, Buffalo des Anglo-Américains—Atlas, Planches 94 et 95, fig. 2. Neither the fiercest animals, such as the tiger, occur in these lines of Calpurnius, nor wild beasts fighting with each other.

¹ See *Il Musaico Antoniniano rappresentante la Scuola degli Atleti*, descritto e illustrato dal P. Giampietro Secchi. Two Plates are appended to this book; Tav. I. Pianta della parte media delle Terme di Antonino Caracalla; A. *Essedra* (hemicycle) orientale in cui fu rinvenuta una parte del musaico figurato; B. *Essedra* occidentale in cui fu rinvenuta altra parte del musaico figurato. Tav. II. Musaico . . . la Scuola

degli Atleti ora collocato nel Palazzo Lateranese. "The pavement . . . was divided into squares and parallelograms each containing a full-sized figure or bust." Lanciani, *Ruins and Excavations of Ancient Rome*, 1897, p. 540. This mosaic in the baths of Caracalla is rightly called "Antoniniano," as the name of the Emperor was Marcus Aurelius Antoninus, but like Caligula (from *caliga*, a soldier's shoe), he is usually known by his nickname, which means a long tunic worn by the Gauls and afterwards introduced at Rome. Martial, *Epigrams*, I, xcii. (xciii.), 6 sq.

"Cerea si pendet lumbis et scripta
lacerna,

Dimidiatae nates Gallica braca
tegit."

var. lect. *palla*. Cerea. See Friedlaender's note, *Wie* IV. liii, 5: Cerea quem nudi tegit uxor abolla grabati von langem Gebrauch gelb geworden. Rich, *Lat. Dict.* cites Strabo IV. iv. 3. *Ἀντρί δὲ χιτῶνα σχιστόν τε χειρίων τοὺς πέποιε μὴ χρί ἀϊδολῶν καὶ γλονῶν*, loco tunicae utuntur veste fasilis manicata usque ad pudenda et nates demissa. However, the garment was made longer by Caracalla: vide *Augustan History*, "Life by Spartianus," chap. 9, Ipse Caracalli nomen accepit a vestimento, quod populo dederat, demisso usque ad talos.

arrangement of single figures in frames of the same size and shape as in the *Mosaïque des Promenades de Reims*.¹

This class of Roman monuments revives a thought which has often occurred to my mind, a conviction of the superiority of ancient to modern art, especially in fertility of invention. Other causes might be assigned, but I will only mention one: "the elegant mythology of the Greeks" supplied artists with innumerable themes on which their fancy might disport, *e.g.* in representing marine deities and combinations of human and animal forms. At the Renaissance genius was cramped by the perpetual repetition of the same subjects, a Madonna and Child, a Holy Family, or a Patron Saint.

The Historical Museum at Frankfort contains a very remarkable pillar called the *Gigantensäule*, excavated at Heddernheim, which is near this city and in the same direction as Homburg. On the top of it a Roman general on horseback runs down a fierce giant, prostrate on the ground. Many monuments of this kind found in the Gallo-German boundary provinces of the Roman Empire belong to the same category, but with variety in architectural proportions, arrangement of reliefs, and composition of giant-groups. Forty-one examples have been discovered, on both sides of the Vosges, on the banks of the lower Neckar and Main and of the Moselle, in the Rhenish Palatinate and Luxemburg, and in the Meurthe and Saar districts. Among all these only one besides the column under consideration has supplied fragments sufficient for a certain reconstruction, *viz.* that found at Merten near Saarlouis.² Between the two there are some differences in details, while a general similarity prevails. That from Heddernheim³ must be regarded as decidedly

¹ My paper on the "Gallo-Roman Monuments of Reims," *Arch. Journ.* 1884, xli. 118-121, in which I have referred to M. Loriquet's work, *La Mosaïque des Promenades et autres trouvées à Reims*, &c. 1862. It deserves more attention than it has received in our country, containing eighteen plates, plan of the excavations, objects found, compartments of the mosaic Nos. 1 to 35 intercalated in the text, and photograph of the whole.

² The chief authorities are Dr. E.

Wagner and M. Auguste Prost, *vide infra*. Dr. E. Wagner quotes Pausanias I. ii. 4, τοῦ γαστρός δὲ οὐ πάρος Ποσειδῶν ἱστῆν ἐφ' ἑππου, δόρυ ἀφίεις ἐπὶ γλῶσσαν Πολυβώτην. Compare *Musée Gallo-Romain de Sens*, 1869-1896. Troisième Partie, Planche xxxv. Bas-relief représentant Neptune combattant, armé de son trident, perhaps Polybotes. Photographure Dujardin. This sculpture is only a fragment.

³ The most remarkable object in the Museum at Wiesbaden is the Mithraic

more important, because it bears a dedicatory inscription of eleven lines nearly complete. They occupy one side of the quadrangular pedestal, and inform us that C. Sedatius Stephanus, Decurio of the Taunenses, and Caturigia Crescentina, his wife, with others, restored this pillar on the third day before the Ides of March, in the Consulate of Sabinus (for the second time) and of Venustus, *i.e.* 13th March, A.D. 240. The exact date should be observed, as it affords a starting point, or, to use the French phrase, *une base solide*, for further inquiries. *Restituo* occurs frequently in accounts of the repairs of Roman roads or buildings, as well as on coins. The side of the pedestal opposite the inscription shows us Hercules holding his club (*claviger*)¹ in the right hand, and the apples of the Hesperides in the left. He stands between Juno and Minerva on the other two sides.

The small figures that adorn the hexagon immediately above the pedestal (*Zwischensockel*) are much weathered; they seem to represent: 1, Mars; 2, a Genius with *patera* for libations and a cornucopiae; 3, a female with cornucopiae and inverted torch; 4, another female holding a bowl with fruits in her left hand, and perhaps ears of corn in her right; 5, Venus; 6, Victory. Maximus, Maximinus, Festa, Maximina, Honorata, and Crescentina, names occurring in the inscription, are placed over these six figures

Tablet found at Heddernheim. The front and back of it are shown in reproductions of photographs, *Arch. Journ.* 1890, xlvii. between pages 378 and 379.

¹ We find *Claviger* as an epithet of Hercules in Ovid, *Fasti*, IV. 68.

Hospes Aventinis armentum pavit in
herbis Claviger:

here the word is a compound of *clava* (a club) and *gero*; it is also used in a different sense, derived from *clavis* (a key) and *gero*. These nouns must not be confounded with *clavus* (a nail), which has other meanings, especially a purple *stripe* on the tunic, *latus* for senators, *angustus* for knights.

Hercules Claviger is well shown in Müller-Wieseler's *Denkmäler der alten Kunst*, Pt. I. Pl. XXXVIII. Nos. 151, 152, 164-157, No. 152, Die Farnesische Colossalstatue des Herakles, Nachbildung eines Lysippischen Originals durch den Athener Glykon. Real

Museo-Borbonico (now Nazionale), Vol. III. Tav. XXIII. xxiv. Ercole in riposo, conosciuto sotto il nome di Ercole Farnese . . . alta pal. 11, the first plate is the front view, the second the back of the figure. C. O. Müller, *Ancient Art and its Remains*, p. 106, § 129. Remark 2. "Of little bronze figures there is no reckoning the number, scarcely any other famous original has so many." Compare *ibid.* 553-562, §§ 410, 411, "Form and Labours of Hercules," &c. In Baumeister's *Denkmäler des klassischen Altertums*, the article "Hercules" extends from p. 651 to p. 672, with engravings 721-735 and many references at the end.

See also full page plate at p. 598, No. 639, *Der farnesische Herakles-Neapel* (p. 670), "den ermüdeten Kämpfer auf seine Keule gestützt und in der rechten auf den Rücken gelegten Hand die Hesperidenäpfeln haltend zeigt."

respectively, so that we must regard them as tutelary deities or as emblems having reference to the persons who offer sacrifice. In the execution of these smaller sculptures an inferiority may be noticed when we compare them with the larger ones below; in the upper part of the shaft the stone also is of a worse quality; hence both seem to belong to the restoration by Stephanus. The Germans may have found the pedestal too strong for them to overthrow it speedily, and therefore contented themselves with destroying what offered less resistance. A human head between the acanthus leaves adorns each side of the capital, which is of the Composite order. We see here an old woman whose head-dress descends on her shoulders as worn by some Italian women at the present day, two beardless male heads, and a middle-aged female.

I exhibit three views of the giant-group, one in front and two of the sides seen lengthwise.¹ It will be observed that the rider's left thigh is broken off in splinters, but the right almost uninjured; thus one engraving becomes the complement of the other. On the upper surface of the giant's head the stone has been left rough and untouched by any tool, because it could not be seen by the spectator below. Obviously for this reason the back of the fine statue of Augustus found in the Palace of Livia, and originally placed in a niche, was left unfinished.²

¹ These views accompany a publication of which I give the title *in extenso*, Hedderheimer Ausgrabungen den mitgliedern des Vereins für Geschichte und Alterthumskunde zu Frankfurt am Main dargebracht an stelle des Neujahrs-Blattes für 1885 und 1886. Die Hedderheimer Brunnenfunde. I. Das Jupiter-Heiligthum. II. Sol und Deus Lunus. III. Die Gigantensäule, von Otto Donner-von Richter und Professor Dr. A. Riese. Mit Fünf Tafeln in Lichtdruck, 1885. From this brochure I have derived much information concerning the details of the monument.

² Good preservation, beauty of design and execution, and historical importance are here combined, so that we may regard the figure as one of the most interesting that antiquity has bequeathed to us. Duruy, *Histoire des Romains*, has appropriately selected it for the frontispiece of Vol. IV.

containing the reign of Augustus, "Statue en marbre, trouvée en 1863, à la villa de de Livie" (Vatican, Braccio Nuovo, No. 14). Mr. W. Copland Perry, *Descriptive Catalogue of the Collection of Casts from the Antique in the South Kensington Museum*, p. 112 seq., No. 241, has given a full account of this work of art, which relates to the restoration of the standards taken from Crassus. The central group on the cuirass of Augustus represents him receiving a Roman eagle offered by a Parthian king. Mr. Perry quotes Horace:

Et signa nostro restituit Jovi,
Derepta Parthorum superbis
Postibus,

as occurring in the *Carmen Saeculare*, it should be Carm. lib. IV. xv. 6.

Here Numismatic science comes to our aid, and supplies a good commentary on the sculpture. Eckhel, *Doct. Num. Vet.*, vi. 94-96, coins of

The rider's left foot rests on the left hand of the giant, who is endeavouring to push it away from himself.¹ I exhibit for comparison similar groups from the Museum at Mayence. In some cases the giant is more erect than at Frankfurt, in others two giants lie under the horses' feet.²

Various attributions have been proposed for the rider

Augustus with legend, SIGNIS RECEPTIS; p. 128, struck after his death, legend DIVVS AVGVSTVS S.C., Cohen, *Monnaies frappées sous l'Empire Romain. Médailles Impériales*, i. 51, No. 84, Rev. CIVIB · ET · SIGN · MILIT · A PART · RECVP; see also p. 62 seq. Arc de triomphe sur lequel on voit Auguste dans un quadriga entre deux Parthes, tenant, l'un, une enseigne militaire, et l'autre une aigle légionnaire. Dean Milman's edition of Horace has an engraving of this medal; the illustrations in this book were contributed by the late Sir George Scharf. One of the smaller figures above-mentioned has a bow, the weapon specially characteristic of the Oriental nations. Tacitus in his history of Corbulo's campaign on the banks of the Euphrates attributes his success partly to his superiority in artillery, the Roman engines propelled greater weights to a longer distance than the Parthians were able to attain with their bows and arrows, *Annals*, XV. 9. Catapultisque et balistis proturbat barbaros, in quos saxa et hastae longius permeabant, quam ut contrario sagittarum jactu adaequantur. We have recently seen a parallel case, when the Americans were at war with the Spaniards; the former had heavier guns with longer range, but the latter being inferior in cannon as well as ships were unable to return the fire of their adversaries.

¹ This cruel type, a rider trampling on a prostrate foe, reappears even in Christian times, as we learn from the coins of Roman emperors in the fourth century. Cohen, *Médailles Impériales*, tome vi. pl. vi. No. 56, Constantin II. Médaillon de Bronze, p. 222. Rev. DEBELLATORI GENTI BARBARR. Constantin galopant à droite, et poursuivant un ennemi, qui fuit et qui a laissé tomber son bouclier. Constant I (Constans), Pl. VII. bis, No. 104. Banduri, *Numismata Imperatorum Romanorum a Trajano Decio ad*

Palaeologos Augustos, Tom. II. plates on p. 330, Constantinus Junior and pp. 348, 349, and II. Index Inscriptionum quae in aversis partibus nummorum leguntur. D, where six examples of the legend above-mentioned are given.

With the group that crowns the column at Frankfort compare *Die Alterthümer Unserer Heidnischen Vorzeit*, 1864, by Dr. L. Lindenschmit, Director of the Römisch Germanischen Centralmuseum in Mainz, Erster Band—Drittes Heft, Tafel VII. Nos. 1 and 2 aus Worms. The shields, both of the Roman and the conquered German, are unusually large, the boss also (*umbo*) is very prominent. Wilkinson, *Ancient Egyptians*, i. 303, "Some Egyptian shields were of extraordinary dimensions," fig. No. 24, and foot-note with references, *Aeneid* II. 227, Sub pedibusque deae clipeique sub orbe teguntur, &c. See, by the same author, *Tracht und Bewaffnung des Römischen Heeres während der Kaiserzeit mit besonderer berücksichtigung der Rheinischen Denkmale und Fundstücke*, 1882, Tafel VII. p. 23, Nr. 3. C. Romanus (von den Hilfstruppen), gefunden bei Mainz, aufbewahrt im Museum dasselbst.

Inscript: C(aius) Romanus equ(es) Alae Norico(rum) Claud(ia) tribu Capito, Caleia, an(norum) XL stip(endiorum) XIX h(ic) s(itus) e(st) h(eres) ex t(estamento) f(aciendum) c(uravit).

Romanus sprengt in voller Rüstung über einem gefallenen, nur mit einem kleinen Mantel bekleideten Gegner, die gezückte Wurflanze in der Rechten. am linken Arm einen sechseckigen Schild.

² Taf. VIII. p. 24, Nr. 1. Der Signifer (standard-bearer). C. Carminius is in the same attitude as most of the Roman riders on Rhenish gravestones, but we may notice that here the conquered enemies are represented by two half-naked men protecting themselves with great oval shields.

who tramples on his enemy ; some interpret the figure as Jupiter, drawing this inference from engraved gems, others as Neptune, mistaking the serpent's tail for that of a fish, others again as a Roman Emperor, perhaps Caracalla. The giant in any case would symbolize conquered Germany.

I presume that the column found at Merten supplies the best illustration of the one from Heddernheim. It has been fully described by Monsieur Auguste Prost, a well-known French antiquary who resided at Metz, in the *Revue Archéologique*.¹

Among the antiquities of the Historical Museum at Frankfurt we may place the Helios-Mosaic as next in importance. It was found in the autumn of 1894 (I think), and described by Koehl in the *Westdeutsche Zeitschrift*, 1895, No. 78. The central space has for its subject the sun-god in a chariot drawn by four prancing

¹ Nouvelle Série, xxvii. 1-20 and 65-83, with plates ; see also "Memoirs" by Dr. E. Wagner in the *Westdeutsche Zeitschrift für Geschichte und Kunst*, Jahrgang I. Heft I. p. 42 sqq. And by Dr. Hettner, *ibid.* Jahrgang IV. Heft IV. pp. 365-388. This Memoir is entitled *Neptun im Gigantenkampf auf römischen Monumenten*. Von dem grbh. Conservator E. Wagner in Karlsruhe. Hierzu Tafel I, containing figs. I-IV, pp. 36-49. Fig. IV is taken from a green paste in the Storch Collection of gems now deposited in the Berlin Museum, p. 48, nach den anderen Analogien als gesichert anzusehende Poseidon den mit Schlangenbeinen dargestellten Giganten vom Pferde herab bekämpft. The writer describes each object with a minuteness of detail truly German. For the Gigantomachia see my paper on the "Gallo-Roman Museum of Sens," *Arch. Journ.*, vol. LVI. pp. 365-367, 1899.

Jupitersäulen. Von Museums-director F. Hettner in Trier. This essay, giving fifteen examples, is a copious discussion of the subject, and I might almost say exhaustive. Some writers have detected historical allusions in the groups and columns mentioned above. On the other hand, Wagner and Hettner contend that the motive is mythological. Arguments in support of their opinion may be derived from the *provenance* in many parts of North-Eastern France and South-Western

Germany, the similarity of the design in engraved gems, and the frequent occurrence of the Inscription I.O.M., i.e. Jovi Optimo Maximo. *Ibid.* 373. Wagner hat das grosse Verdienst, durch Zusammenstellung der ihm bekannten Exemplare, die Häufigkeit der Gruppe, und ihre vorwiegende Verbreitung über Südwestdeutschland und Nordwestfrankreich gezeigt, sie der historischen Deutung, an der Stark (*Bonn. Jahrb.* 44 S., 27 ff.) und Prost (*Revue Arch.* B. 37, p. 1 ff.) festhielten, entrückt und in den Kreis der Mythologie eingestellt zu haben.

However, it seems quite possible that these groups, at least in some cases, may have been both mythological and historical, as at Pergamon the sculptures on the frieze of the great altar represented the battle of gods and giants, but at the same time had reference to the victory of Greeks over Gallic invaders : W. C. Perry, *Descriptive Catalogue of the Collection of Coins from the Antique in the South Kensington Museum*, Nos. 205-208, pp. 99-101. Livy, lib. XXXVIII. cap. 16, *Primus Asiam incolentium (stipendium dare) abnuat Attalus, pater regis Eumenis : audacique incepto, præter omnium opinionem, adfuit fortuna, et signis conlatis superior fuit*.

Those who have not access to these publications may read some account of the monument in my paper on Trèves and Metz, *Arch. Journ.* xlv. 403-406.

horses, the two in the middle looking inwards, the other two outwards. Sol's head is radiated, in his right hand he holds a whip, as in a *denarius* of Alexander Severus. This type closely resembles what we see in the coins of Gordian III., Probus, and Constantinus II., belonging to the third and fourth centuries after Christ, from which we may infer* that the date of the mosaic nearly synchronizes with that recorded on the giant-column, viz. A.D. 240.¹ It is said that the form of the chariot leads to the same conclusion. On the other hand, the signs of the Zodiac occupy a circular band drawn round the central group, and inscribed in a square frame, with goblets, like *canthari*, filling up the interstices at the four corners; and many details here, e.g. in *Aquarius*, *Libra*, *Taurus*, etc. by their better execution, might seem to indicate an earlier period; but they may be explained as imitations of preceding works

¹ Cohen, *Médailles Impériales*, iv. 24, Alexander Severus, No. 181, Rev. P.M. TR.P. XII. COS. III.P.P. Le Soleil radié marchant à gauche, levant la main droite et tenant un fouet. Eckhel, *Doct. Num. Vet.* Alex. Severus, vii. 275, 277. Rev. *flagellum* frequent. *Sonderabdruck aus den Berichten des Freien Deutschen Hochstiftes zu Frankfurt am Main, Das Helios-Mosaik im Historischen Museum zu Frankfurt a. M. und die Zeit seiner Entstehung*, von Herrn Dr. F. Quilling, Städt. Histor. Museum, Wissenschaftl. Hilfsarbeiter. H. A. Grueber, *Catalogue of Roman Medallions in the British Museum*, 1874, p. 48, Gordian III. No. 14, Rev. PAX. AETERNA Emperor . . . sacrifices at a lighted altar; behind him, Victory, crowning him with wreath and holding palm; before him, in the background, Sol in quadriga, facing, holding whip . . . beneath the chariot are two river-gods, the Tigris and the Euphrates. Compare the illustration that accompanies Dr. Quilling's *Memoir*.

Probus, SOLI INVICTO, the Sun in quadriga. This legend and type, often repeated, lead us to conclude that when we meet these words in inscriptions, *Soli* is the dative of Sol, not a case of *solus*, a, um (alone). The latter interpretation has caused some to translate

SOLI INVICTO DEO in inscriptions, the only invincible god, i.e. Mithras, and hence to construct the theory that Mithraism, proclaiming the unity of the Deity, prepared the way for Christianity. *Lapidarium Septentrionale*, edited by Dr. Collingwood Bruce, No. 63, DEO INVICTO MYTRAE, Nos. 188-192, with plates of a tablet and altars containing inscriptions—one has DEO SOLI INVICTO MYTRAE, Nos. 436, 437, the Persian sun-god, 675; Sol, Nos. 64, 65, 189, 190. *Invictus* may, perhaps, refer to the intolerable heat of Eastern climes, and therefore be an appropriate epithet for the Sun; p. 101, some account is given of Mithraic rites and worship.

Cohen, v. pl. viii., No. 37, Or, Rev. Le Soleil radié debout dans un quadriga de face, levant la main droite et tenant un globe et un fouet. Constantine II. (Constantius) ib. pl. vii. bis, No. 31, L'Empereur nimbé, debout de face, dans un quadriga de face, lançant des pièces de monnaie, etc.; legend GLORIA ROMANORVM, in the exergue SMANT. Dr. Quilling explains this medal as Sol auf dem Viergespann, but I think he is mistaken, because the figure has not the radiated head, as is usual with the Sun, and the distribution of money seems to represent the *congariū*, a largess to the Roman people.

of art which had become conventional forms, copied by one generation after another.

The Paulus Museum at Worms¹ contains many inscriptions; for various reasons some are interesting, and I shall therefore attempt to explain three of them:

(1) D· M·
 AVREL·VAPINO
 CIRCITORI
 AVREL·FLAVINVS
 CONTVBERNALI
 SVO PRO FRATRE
 POSSV

Expansion.

D(iis) m(anibus) Aurel(io) Vapino circitori Aurell(ius) Flavinus contubernali suo pro fratre (sc. ejus) possu(it).

Translation.

To the divine Manes! To the patrol Aurelius Vapinus, his tent-companion, instead of his (Vapinus') brother, Aurelius Flavinus has erected (the monument).²

Circitor is the first word in this inscription that deserves attention. De Vit, in his edition of *Forcellini's Lexicon*, translates it by *chi va intorno*, and hence it has been applied to a watchman in a garden. But here it has reference to the army, and means one who goes

¹ Worms is an old historical city situated between Mainz and Speyer. In books published fifty years ago it is mentioned as a dull, decayed place with grass-grown streets, like those of Ravenna, and interesting only on account of the associations that gather around it. Now its aspect has undergone a complete change, and the visitor perceives on every side the signs of progress and prosperity. Baedeker's *Rheinlande*, 1886, p. 123, Es zählt 21,927 Einwohner . . . die einen ansehnlichen Weinbau betreiben, und auch in gewerblicher Hinsicht eine rührende Thätigkeit entwickeln (Glanz-

lederfabriken). The ancient name was Borbetomagus, capital of the Vangiones, which became in the Middle Ages Wormatius, afterwards contracted into Worms.

This German nation is mentioned by Caesar amongst those who formed the army of Ariovistus, when he invaded Gaul: *Bell. Gall.* book I. chap. 51.

² My information concerning the Inscriptions at Worms is derived chiefly from *Die Römische Abteilung des Paulus-Museums der Stadt Worms, Zweiter Teil*, von Dr. August Weckerling, 1887.

the rounds (*ἐφόδεια*, Polybius)¹ to ascertain that the sentinels are doing their duty.²

Flavius Vegetius Renatus flourished in the latter part of the fourth century after Christ, under Theodosius I., and our inscription may belong to the same period. He is said to have dedicated his work to this Emperor. The date of Vegetius is discussed in Lang's Preface, pp. vi.-viii.: "Cum igitur de ipso imperatore cui Vegetius libellum suum inscripserit, ex hoc certi nihil constet, Theodosium autem fuisse verisimile saltem sit, etc." Gibbon is of a different opinion.³ The series of calamities which he marks compel us to believe that the *Hero* to whom he dedicates his book is the last and most inglorious of the Valentinians.

Circitores sometimes occur in inscriptions.⁴ That *circitor* here is a legionary officer is proved by the words in line 8, TRIB. LEG., *C.I.L.*, vol. v. part ii. "Gallia Cisalpina," p. 751, No. 6784 (Eporedia, *Ivrea*).

CIRCITOR
DE VIXILLATI
ONE CATAFRA
CTARIORVM

This inscription suits our present purpose, because it contains *catafractariorum* in extenso, and so is the complement of another which I am going to cite, and

¹ Polybius VI. (EK THZSS) 35, 9, ἥ δὲ τῆς ἐφόδεας πλῆσις εἰς τοὺς ἰππεῖς ἀνατίθεται, ed. Bekker, Vol. I. p. 529, the passage that begins with these words gives a detailed account of the elaborate precautions taken to ensure the efficient circulation of passwords by means of tablets (*tesserae*). It is translated in Smith's *Dictionary of Antiquities*, third edition, s.v. *Castra*, i. 377. Cf. Livy, XXVII. 46, *Tessera per castra ab Livio consule data erat, ut tribunum tribunus, Centurio centurionem, eques equitem, pedes peditem acciperet.* Diodorus Siculus, Lib. XX. Cap. XVI. καὶ σχεδὸν αὐτῶν μεσοπύργιον ἡδὴ κατελήφθων, ἡ κατὰ τὸ σύνθημα ἐφόδια παραγενομένη κατενόησε. See the excellent note of Wesseling, reprinted in the Bipont edition, *Argentorati*, 1793-1806, ix. 437, Annotationes in lib. XX. *Herichius*, ii. p. 243, 30, edit. Schmidt, 1860, ἐφόδια τὸ ἐπικύβαι

τάς φυλακὰς τὸν ἄρχοντα. Other references will be found s.v. ἐφόδεια in Stephanus, *Thesaurus Graecae Linguae*, re-edited by Hase, and G. and L. Dindorf, published by Didot, 1835.

² *Vegetius De Re Militari*, III. 8, p. 84, edit. Lang, 1869: "Idoneos tribuni et probatissimos eligunt, qui circumcant vigiliis, et renuntiant, si qua emeruerit culpa, quos circumitores appellabant; nunc militiae factus est gradus et circitores vocantur."

³ *Decline and Fall*, Chap. XXVII. fin.; Vol. iii. p. 404 seq., edit. Sir Wm. Smith, note 125: *Vegetius*, l. i. c. 20.

⁴ *Corp. Inscr. Lat.* Vol. iii. edit. Mommsen, Part ii. "Moesia Superior," p. 1020, No. 6292, line 10, CIRCIT, now in the Imperial Museum at Vienna; Von Sacken und Kenner, *Sammlungen des K. Münz- und Antiken Cabinet* (1866), note 206a, p. 80.

which only has the abbreviation *Kata*. Catafractarius is derived from *καταφράσσω*, cover, clothe in full armour. Compare *ibid.*, p. 787, No. 6999, Taurini (*Torino*), CIRCITORIS, where the sculptured stone shows that this officer was mounted, *Vir equo insidens hastam longam tenens*.

Circuitores, another form of *circitores*, are mentioned in connection with aqueducts.¹ It was their duty to inspect the water-conduits, and to report any case of defect or fraud, in order that a remedy might be applied.² Sextus Julius Frontinus, the immediate predecessor of Agricola in the government of Britain, is our best authority for this subject.³

¹ For the Roman aqueducts consult Lanciani, *The Ruins and Excavations of Ancient Rome*, Sect. xiv. pp. 47-59, figs. 19-24; fig. 19, Map of Aqueducts; fig. 23. *The Seven Aqueducts at the Porta Maggiore*, p. 58, Supply of water in Ancient Rome, tabulated. Doubtless many details will be found more fully treated in another work by the same author, *Topographia di Roma Antica*, I. Commentarii di Frontino, Rome, 1880, but I have not access to it at present. Among these aqueducts the Claudian is not only the best preserved monument of its class, but "the grandest ruin outside the walls of Rome," a line of arches extending for six miles, almost parallel to the railway from the capital to Naples, and thus making an impression on the traveller so deep that lapse of time cannot efface it. Murray's *Handbook of Rome and the Campagna*, sixteenth edition, with ninety-four maps and plans, 1899, Introduction p. 48, especially map of the Appian Way facing p. 414, where the Aqua Claudia is marked by a dotted line; see also p. 417.

There is a very fine *Heliogravure* (No. VII) of it in the Atlas of Plates that accompany *Les Travaux Souterrains de Paris*, II. Première Partie, Les Eaux, Introduction, p. 237, *Les Aqueducs Romains*, par M. Belgrand, Paris, 1875; Arcades de Claudia à Roma Vecchia, 5 milles de Rome (Pierre de taille) Audessus Anio Novus (Briques). Compare Text, Chap. III. Détails de construction, pp. 41-59, Plates II.—VIII., especially for Claudia, Pls. IV., V., VI. Frontinus calls this aqueduct *opus magnificentissime consummatum*.

² *Dictionary of Antiquities*, third edition, i. 156, and article *Aquarii*. Letter of Coelius in Cicero ad Familiars, VIII. 6. Nisi ego cum tabernariis et aquariis pugnarem, veterius civitatem occupasset. Hæc autem faciebat tanquam aedilis, ad quem harum rerum cura pertinebat. Note of Graevius and Pauli Manutii Commentarii in Cicero ad Familiars, edit. Elzevir, ii. 889, Lugduni Batavorum, c1; Ioc LXXVII.

³ "De Aquaeductibus," Section 117, Utraque autem familia (body of slaves) in aliquot ministeriorum species diducitur, villicos, castellarios (superintendents of reservoirs), *circitores*, *silicarios* (paviours), *lectores* (plasterers), *alioque optices*, *C.I.L.* v. part i. p. 416, No. 4100, Cremona, now at Milan, in the Palazzo di Brera. Compare Orelli, *Collectio Inscriptionum Latinarum*, vol. ii. p. 57, No. 3204, CIRCIT. SVB OVR IVSTI, *circitori sub cura Iusti*.

Frontinus succeeded Cerialis, and his able administration of the province is briefly related by Tacitus, *Vita Agricola*, Cap. XVII. Et Cerealis quidem alterius successoris curam famamque obruisset, sed sustinuit molem Julius Frontinus, vir magnus quantum licebat, validamque et pugnam Silurum gentem armis subegit, super virtutem hostium locorum quoque difficultates elucatus. The same author mentions him as holding the office of *praetor urbanus*, and resigning in favour of Domitian, *Historiae*, Book IV. Chap. 39.

We have also the testimony of another contemporary witness; Pliny the Younger, speaking of his own election to the office of augur, says,

The first part of M. Belgrand's work, to which I have referred in a former paper, is illustrated by an atlas folio containing a map of the courses of the Roman aqueducts, and on the same sheet a plan of Rome, divided into fourteen regions, on which the principal lines of distribution are marked. There are also ten *héliogravures*, among which No. IV. specially deserves notice. *Porte majeure, à gauche Claudia surmontée par Anio Novus, à droite Marcia. Tepula et Julia passant sur la culée de l'Arche construite dans le mur d'enceinte.*¹

I have translated *contubernalis* in our inscription by tent-companion, following the German editor (*Zeltgenoss*). The word is derived from *taberna*, which is akin to *tabula*, and corresponds closely with the Greek *ὀμόσκηρος*.²

Epistles, IV. 8; Mihi vero illud etiam gratulatione dignum videtur, quod successi Julio Frontino, principi vire (leading man) qui me, nominationis dio, per hos continuos annos, inter sacerdotes nominabat, tamquam in locum suum cooptaret. See Buchner's note in the edition of Corte and Longolius, 1734, p. 262. *Ibid.* IX. 19, Vetuit exstrui monumentum: sed quibus verbis? "Impensa monimenti supervacua est: memoria nostri durabit, si vitā meruimus." Verba Frontini . . . in librum in vulgus editum relata, Gesner's note, p. 667 edit. Corte and Longolius, in loco Buchner cites Cicero, "Tusculan Disputations," Book I. chaps. 43-45; in the last chapter, § 109, we read: Sed profecto mors tum aequissimo animo oppetitur, quum suis se laudibus vita occidens consolari potest.

¹ See also Lanciani, *Ruins and Excavations of Ancient Rome*, 1897, p. 55, fig. 23, the seven aqueducts at the Porta Maggiore.

² Dionysius Halicarnassensis, *Antt. Roman.* edit. Reiske, vol. ii. p. 1211, lib. VI. cap. 74, πολλά δὲ σώματα συγγενῶν τε καὶ ἑταίρων καὶ ὀμόσκηρων ἀποβαλόντες. Xenophon, *Cyropædia*, II. i. 25, Ἐν δὲ τῇ ὀμόσκηρῳ ἐδόκουν μὲν αὐτῷ ὠφελεῖσθαι πρὸς τὴν μάχην ἀγῶνα τοῦτο, ὅτι ἑώρων ἀλλήλους ὁμοίως τρεφομένους. *Infra*, § 26, ὀμόσκηνα. Suidas, *Lexicon Graece et Latine*, edit. Gaisford and Bernhardt, 1853, with critical notes, vol. ii. col. 988, s.v. Συσκηνα, συνονικία, quotes in *extenso* Xenophon, *loc. cit.* In the earlier edition of Suidas by Kuster the article is not so complete. Livy, XXXIV. 19,

deni saepe munimenta eorum, velut communi pacto commercio, privatis induciis ingredientes. The historian, in his account of the campaign of Cato in Turdetania (Andalusia), informs us that in time of war the Romans brought provisions from the enemy's forts and fields, as if commercial intercourse had been sanctioned by authority, and that they went in parties of ten (*deni*) within the Spanish walls. I suppose that this number is stated because ten soldiers occupied the same tent together. Vegetius, *Epitoma Rei Militaris*, lib. II. cap. XIII. Rursus ipsae centuriae in contubernia divisae sunt, ut decem militibus sub uno papilione degentibus unus quasi praesens decanus, qui caput contubernii nominatur. The distributive here has its full force, which is not always the case. Professor Key's *Latin Grammar*, pp. 35-40, §§ 247-272, presents the Latin numerals with unusual clearness; Arabic and Roman symbols, Cardinals, Ordinals, Distributives and Adverbs are given in a convenient tabular form. For the abbreviations, see § 251. Livy, *loc. cit.* the later editions of Madvig, 1863, and Weissenborn, 1883, read *deni*; that of Drakenborch, 1741, has *dein*, which does not suit with the context. Drakenborch reprints the notes of Glareanus, Sigonius and J. Fr. Gronovius, adding one of his own; but they are all more or less unsatisfactory. We may remark that in *deni* and *dein* the letters are the same, and only differ in the transposition of N and I. The change may remind one of Bentley's ingenious emendations, where the form of the words is slightly altered, e.g.

There were usually ten men in the same tent, whom an officer called *decanus* commanded. Hence the French *doyen* and English *dean* are obviously derived.

Young Romans of high families were also called *contubernales* when they accompanied a magistrate to his province in order to learn, under his superintendence, the arts of warfare and of civil administration. Horace refers to this practice in the Ninth Epistle of the First Book, v. 4, addressed to Tiberius, afterwards Emperor,

Dignum mente domoque legentis honesta Neronis.

On which Orelli remarks :

Utpote qui in contubernium convictumque tuum recipi mereatur.

And again in v. 13 :

Scribe tui gregis hunc, et fortem crede bonumque.

But we may go further, and say *significatio latius patet*. *Contubernium* is used to mean the dwelling of a slave, and the connection of two slaves, or of a freeman and a slave, which could not be a legal marriage. Tacitus (*Histories* I. 43), is relating the murder of Piso, who had been adopted by the Emperor Galba ; he fled for refuge to the apartment of the sacristan in the temple of Vesta, *exceptus misericordia publici servi, et contubernio ejus abditus*. [Compare *Ibid.* III. 74, and Horace, *Satires*, I. viii. 8, *angustis cellis*.¹]

POSSV(it) is an unusual form of the verb for *posuit*. Considering the late period of the inscription, it seems more reasonable to ascribe it to barbarism than to lay the blame on the stonecutter's negligence.

Horace, *Ars Poetica*, v. 65, he reads *palus prius for diu palus*, and thus corrects a metrical fault.

¹ Tacitus, *Histories*, III. 74 ; similarly, Domitianus prima inruptione apud aedituum occultatus . . . , potente rerum patre, disjecto aeditui contubernio, with notes in Spooner's edition of the *Histories*, 1891, p. 348. Suetonius, Domitianus, cap. 1. Bello Vitelliano confugit in Capitolium . . . , sed, irrum-pentibus adversariis, et ardente templo,

apud aedituum clam pernoctavit : ac mane Isiaci celatus habitu, etc., with parallel passages from *Philostratus and Dio Cassius* in Orelli's note. Merivale, *op. cit.* vi. 469, 8vo, "Domitian contrived with a freedman's help, to disguise himself in priest's robes, and found an asylum with a servant of the temple." Horace, *loc. cit.* ; Orelli appositely quotes Seneca, *Epistle* 18 (?) *Miseris mediastinorum cubiculis, plerumque subterraneis*.

(2.)

M· VAL· MAXANTIVS
EQ· EX· NVMER·
KATA· VIX· ANN·
XXXII· MES· VI
VAL· DACVS HER·
F E C

D(iis) m(anibus) Val(erius) Maxantius eq(ues) ex numer(o) kata (fractariorum) vix(it) ann(os) XXXII me(n)s(es) VI, Val(erius) Dacus her(es) fec(it).

To the divine Manes ! Valerius Maxantius, a horseman of a division of mailed cavalry, lived thirty-two years and six months. His heir Valerius Dacus erected the tombstone.¹

The relief on the monument represents the rider with his lance couched.²

This sepulchral stone belongs to a late period of the Roman occupation, probably the fifth century, and the rude sculpture bears witness by its stiff and faulty style to the decline of art which was at that time almost universal. In the inscription itself we may observe that

¹ Maxantius appears to be another form of Maxentius, which occurs frequently. It is not included in De Vit's *Onomasticon*, and I have not met with it elsewhere. The most famous man who bore this name was the rival of Constantine the Great, defeated by him A.D. 312 at Saxa Rubra, about nine miles from Rome, and near the rivulet Cremera. Gibbon, *Decline and Fall*, Chap. XIV. notes 66-68. Maxentius is known to us not only by political history, but also by an architectural monument. He began the erection of a building, which is now called the Basilica of Constantine, who completed it. Formerly antiquaries named it Templum Pacis, a mistake derived from a neighbouring edifice, and corrected by Nibby. Of this magnificent structure the only existing remains are "three vaulted chambers sixty-eight feet in span, which opened out of the great central hall on the north-east side." *Murray's Handbook, Rome and the Campagna*, sixteenth edition, 1899, p. 69; Middleton, *Remains of Ancient Rome*, 1891, ii. 224-229, figs. 86, 87. "The colossal arches have served as a model to architects for all the larger

churches in Rome . . . the building is unique of its kind among the ruins of ancient Rome": Emil Braun, *Ruins and Museums of Rome*, p. 8. Bearing these remarks in mind, we may be surprised to find that due prominence has not been given to this Basilica in some books that have been written about the Eternal City. Once seen, these vestiges of Imperial grandeur can never be forgotten. He who would fully understand ancient monuments and describe them vividly, must speak with the knowledge that personal inspection alone can supply. Drawings, photographs and models, however accurate, are imperfect, because the inquirer fails to remember the scale on which they are executed, and therefore does not obtain a realizing view.

² For similar figures we may compare Dr. L. Lindenschmit: *Allerthümer unserer heidnischen Vorzeit*, Heft III. Tafel 7, *Römische Skulpturen*, figs. 1, 2; and Heft XI. Tafel 6, *Römische Grabsteine*, fig. 2. In the latter case the inscription indicates a cavalry soldier, EQ· ALA· CLAVD, i.e. *equus ala Claudiana*.

while the letters D· M· take their usual place as a heading, their order is changed, and D is inverted as one sees it in a glass. The first word that deserves attention here is *numerus*, not used in republican times with reference to military affairs, but under the Empire frequently both in books and in epigraphy. It is a general term for cohorts, maniples, squadrons and wings of cavalry; in Greek σπῆρα and τάγμα; the former of which occurs in the New Testament, Acts of the Apostles, x. 1, where Cornelius is said to be a centurion of the Italian band.¹ Two examples will suffice here: Tacitus (*Histories*, I. 6, *multi ad hoc numeri*), describing the forces with which Rome was filled when Galba entered the city, includes among them companies from Germany, Britain and Illyricum. [Other instances are supplied by *De Vit's Lexicon*, s.v. § V. 17–20, *de ordinibus militaribus*, from Pliny's Epistles, Suetonius, Vopiscus in the Augustan History, and Ammianus Marcellinus.] We read in *Inscriptiones Regni Neapolitani*, edit. Mommsen, No. 1947, *Campania, Abellae, in foro, basis*:

PRAEPOSIT· NVMEROR
TENDENTIVM· IN· PONTO ^{inssura scripto} A B
SARO· TRIB· COH· III· VIG ^{anti-}
PATRON· COLON ^{quior}
D D

¹ N often stands as an abbreviation for *numerus*. Some examples of the use of this word as a military term have a national interest for us. Wisely did the Roman government remove the provincial recruits of its armies from the countries in which they were born; so we learn from the monuments that Britons were quartered in the South of Germany, and Spaniards (Astures, Asturias) in the North of England. *The Roman Wall*, 3rd ed. 4to, 1867, by Dr. Collingwood Bruce, v. Index *Astures, Inscriptions*, p. 109. *Genio alae pri [mae] Hispanorum*; p. 64, *curatori alae II. Asturum*, pp. 158–161, 366, 412.

Die Römischen Inschriften und Bildwerke Württembergs, herausgegeben von Ferdinand Haug und Dr. Gustav Sixt, Mit 227 (bez. 244) Abbildungen und einer Fundkarte. II. Teil (Schluss), 1900. Sect. 397, Abb. 176, p. 301, seq. Stempel des N(umerus) B(rittonum) L(unensium?) Abteilung der Brittonen na der Lein. *Numerus*, die allgemeinste

Bezeichnung für eine "Truppenabteilung welche unter einheitlichem Oberfehl eines Offiziers steht," kommt seit dem 2. Jahrhundert namentlich für die zur Bewachung der Grenzen verwendeten Hilfstruppen vor, soweit sie nicht in Alen oder Kohorten eingeteilt sind. *Ibid.* § 398, Abb. 177, Stempel des N(umerus) B(rittonum) C(ivium) R(omanorum?) Abteilung der Brittonen, römischer Bürger (?). See also § 445 Abb. 203, and § 446.

Corp. Inscr. Lat., Vol. VIII. Pars Posterior, Tabula III. NVMERVSSYR· ORVM is marked in the West of Mauretania. In Brambach's *Inscr. Rhena-nae* we find N as an abbreviation of *numerus* in its ordinary signification, and associated with Roman capitals used as numerals; consult Index XV. (*Notarum*) Nos. 114, 216, 853, 1076, 1397. N might also = *nepos* or *noster* and many other words, for which see the collections of Gerrard and Orelli.

It is not quite certain that KATA should be understood as meaning *cataphructi*, but it is highly probable. The word being, as mentioned above, of Greek origin, the initial K has been substituted for C. Another variant also occurs, and F is written instead of PH; so in Italian we have *filosofia*, *Filippo*. [Compare Orelli, *Inscriptions*, i. 193, No. 804——PRAE. ALAE||GALLOR.|| ET PANNONIOR. CATAFR.¹]

Among the monuments unquestionably the best illustration is to be found in Trajan's Column, see the folio plates by Fabretti and others, 1846, Tav. XV. No. 147. "Sciolto il freno di destrieri corrono i Sarmati al soccorso del Re Decebalò . . . cavalieri armati di lorica hamata. Anche i loro cavalli sono coperti da una eguale armatura." Compare Tav. XIX. No. 161, and XXXIII. No. 203. In the last section Virgil is cited, *Aeneid*, III. 466 :

Loricam consortam hamis auroque trilecem,

words repeated, book V. v. 259 *sq.* with the epithet *levibus*. These lines are the subject of a learned essay by the late Rev. C. W. King, which appeared in the *Archaeological Journal*.² *La Colonne Trajane décrite*, par W. Froehner, 1865, a smaller work in 8vo. supplies some additional particulars, *Indice Alphabétique Cataphractaires*, p. 96, &c. : "Les yeux mêmes des chevaux sont couverts d'une plaque ronde percée de plusieurs trous"; and see especially plate No. 27, facing p. 102.

Baumeister, *Denkmäler des Klassischen Altertums*, has an excellent Article, *s.v. Waffen*, vol. iii. p. 2059, fig. 2273, "Links Panzerreiter, rechts Germanen" (*Zu Seite* 2058); and on the same page, fig. 2274, "Rechts Schleuder" (*Zu Seite* 2058). Many references are given, *e.g.* to Lampridius, *Life of Alexander Severus*, chap. 56,³ and *Livy*, XXXV. 48. The ambassador of King Antiochus describes the cavalry of his sovereign's army : "Equitum innumerabilem vim trajici Hellesponto in

¹ I have selected two Inscriptions from Dr. August Weckerling's *Memoir*, No. 1, p. 54, and No. 2, p. 55.

² Vol. xxxii. pp. 48-54.

³ See the notes of Casaubon and Saumaise (Salmasius) in the Variorum edition.

Europam, partim loricated, quos cataphractus vocant"; cf. *ibid.* XXXVII. 40.¹

The following work throws much light on the accoutrements of Roman soldiers, particularly those serving in the regions where some of the preceding inscriptions were found. It is entitled: *Tracht und Bewaffnung des Römischen Heeres während der Kaiserzeit mit besonderer Berücksichtigung der Rheinischen Denkmale und Fundstücke*. Dargestellt, in zwölf Tafeln und erläutert von Ludwig Lindenschmit, Braunschweig, 1882. For chain-armour, see p. 29, Taf. XII. No. 12, plate of *Lorica hamata* of iron, found in Nydam Moor, now preserved in the Museum at Kiel; each ring is fastened by a rivet in the broader part of it. This brochure of 30 pages contains much information in a small compass concerning armour and weapons: helm, *Lorica*, *Cingulum*, *Dolch* (*pugio*), *Pilum*, *Hasta*, *Hasta amentata* (furnished with a strap or thong), *Scutum*, *Ocreae*, also military decorations, *Verdienstzeichen-torques*, *armillae*, *phalerae*. The plates selected by the learned editor as it were replace monuments not easily accessible, thus imparting light and life to our study of classical writers. The first among them shows us one of the most remarkable figures that still remain in Germany as records of Roman times, Manius Caelius, an officer who fell in the defeat of Varus, sculptured in relief on his tomb-stone.² In the second line of the inscription the first word has disappeared except the final letter O. It had therefore been conjecturally supplied by *optio*, *legato* or *tribuno*, but *evocato* has also been proposed, and this reading is plausible, for the *evocati* were discharged veterans called out as volunteers (*voluntate sequentes*), who commanded centuries (*ordines*), and had the rank of centurions. Caesar mentions them repeatedly: in the *Gallic War* (Book VII. chap. 65) he informs us that he made use of

¹ *Dict. of Greek and Roman Antiquities*, 2nd edition, p. 256, has a good article, *Cataphracti* (*καταφρακτοί*), called *περιπεφραγμένοι* by Pollux, *Onomasticon*, i. 140, who speaks of the *προμετωπίδιον*, *παρώπιον*, *παρήγιον*, &c., names expressing the parts of the body which were protected.

² We might infer from the military decorations of the bust that they were frequently worn in ancient times as we see them now on the Continent. It is also engraved with a copious commentary in another work by the same author, *Die Alterthümer unserer heidnischen Vorzeit*, Sechstes Heft, Tafel V. Skulpturen B, Römische Grabsteine.

their horses for some German auxiliaries who were not well mounted.¹ In the *Civil War* (Book I. chap. 17) Domitius Ahenobarbus, besieged in Corfinium, promised grants of land to the soldiers out of his own estates, and proportional donatives to the centurions and *evocati*. We also read that two thousand soldiers of this class served under Pompey at the battle of Pharsalia, III. 88.²

Tacitus (*Histories*, I. 79), describes the effects of the *cataphractes*. He is relating the victory gained by the Romans over the Sarmatians in Otho's short reign: he says it is composed (*consertum tegimen*, the former word we have already seen in *Virgil*) of iron plates or of very hard leather, impenetrable by blows, but so heavy that the wearer once prostrated by the enemy's attack could not possibly rise again. Two passages in Ammianus Marcellinus, a late but valuable authority, deserve to be cited, XVI. x. 8. The *cataphracti* appeared among the troops that escorted Constantius, son of Constantine the Great, when he visited Rome; according to the historian they looked more like statues, polished by the hand of Praxiteles, than human beings, and their armour, consisting of these rings, adapted itself to every movement of the body.³ In another place, XXII. xv. 16, he applies the term we have been considering to the scaled hide of a crocodile, which is so strong that military engines could scarcely pierce it, *vix tormentorum ictibus perforantur*.⁴

We find another name also, *clibanarii*, for heavy-armed cavalry. De Vit says that their cuirass was not composed of scales, but of solid steel bent in the form of a *clibanus*, a covered earthen vessel wider at bottom than at top, wherein bread was baked by putting hot embers round it: Liddell and Scott *s.v.* κλίβανος. This

¹ Caesar's words may remind us of the *remounts* in our own armies fighting against the Boers, a term with which the newspapers have made us familiar.

² *Dictionary of Antiquities*, 3rd edit. pp. 761, 791.

³ Sparsique cataphracti equites, quos clibanarios dictitant, personas thoracum muniti tegminibus et limbis ferreis cincti ut Praxitelis manu polita crederes simulacra, non viros: quos laminarum circuli tennes apti corporis flexibus ambiebant per omnia membra deducti, ut quocunque artus necessitas com-

movisset, vestitus congrueret junctura cohaerenter aptata.

⁴ The expression may be illustrated by reference to Cuvier's *Règne Animal*, tome 3, "Reptiles, Les Sauriens, Les Crocodiles," p. 27, "le dos et la queue couverts de grandes écailles carrées très-fortes, relevées d'une arête sur leur milieu. . . . Les écailles du ventre carrées, minces et lisses." See also the accompanying *Atlas of coloured Plates*, 2, fig. 1, "Le Caïman à lunettes"; fig. 2, "Le Gavial du Gange"; 10, fig. 1, "Le Crocodile à deux arêtes."

produced a more equable heat than an ordinary oven, and is still practised in some remote districts. According to *Herodotus*, II. 92. the Egyptians who wished to have the papyrus in thorough perfection for eating, cooked it in a *clibanus*.¹ The word occurs in the New Testament, St. Matthew's Gospel, vi. 30, where the Authorized Translation, "the grass of the field, which to-day is, and to-morrow is cast into the oven," is retained by the Revisers; it appears once in the Septuagint, Genesis xv. 17, in the account of Abraham's vision, "behold a smoking furnace" (κλίβανος καπνιζόμενος). Sometimes the second letter is R instead of L, an interchange of liquids by no means uncommon. In Egyptian as in some other languages, no clear distinction existed between *r* and *l*. The actual sound probably hovered between the two.²

The *Notitia Dignitatum Orientis* furnishes us with additional examples: Cap. IV. *Magister Militum Praesentalis*, I. § I [A] [B] p. 19, edit. Böcking. *Comites Clibanarii. Equites Cataphractarii Biturigenses. Equites Primi Clibanarii Parthi*. Consult Index for references to Commentary, especially p. 186 *seq.*

Lastly, we find troops of this class called *cruppellarii* by Tacitus (*Annals*, III. 43, note, edit. Furneaux). This is the form in the Florentine Manuscript, usually indicated by the letter M. Lipsius prints with one *p*. The historian is relating the revolt of Florus and Sacrovir in Gaul. The latter was leader of the Aeduians (Burgundy), and occupied their capital Augustodunum (Autun). In addition to other forces he had slaves, who had been intended to serve as gladiators, armed with a coat of mail (*continuum ferri tegimen*) so heavy and closefitting that they were equally incapable of inflicting and suffering blows.³ As the word is not

¹ The *clibanus* must have resembled the dome-shaped roof of a kiln. *Herodotus*, I. c., οὐ δὲ ἔν καὶ κάρτα βδύλονται χρηστῇ τῇ βύβλῳ χρᾶσθαι, ἐν κλίβανῳ διαφανεί πνιξαντες οὕτω τρώγουσι, with Blackesley's note in the *Bibliotheca Classica*. "The oven was heated by burning dry dung, which was heaped round the base," *Illustrated Biblical Treasury*, edited by Dr. Wm. Wright,

p. 348. Those who wish to pursue the subject further may consult *Hastings' Dict. of the Bible*, s.v. Oven, vol. iii. p. 637, and see *Bread, Furnace*.

² Isaac Taylor, *The Alphabet. An account of the Origin and Development of Letters*, 108. "The Egyptian Prototypes."

³ Tacitus, *loc. cit.* inferendis ictibus inhabiles, accipiendis impenetrabiles.

found elsewhere, Muretus proposed to substitute for it *clibanarii*. It is evidently, as Orelli says, *Gallica vox*,¹ by no means to be derived from *κρύφαλος* or *κεκρύφαλος*, which means a woman's head-dress of net, to confine the hair (*reticulum*), seen in the medallion of Syracuse: "B.V. Head, Coinage of this city. Dionysian dynasty, B.C. 405-345," plate IV. figs. 6, 7, decadrachms; *Id.*, *Historia Numorum*, p. 154, fig. 101. *Cruppellarii* may be connected with the Celtic word *Crupay*, a wrinkle, fold or plait: *Armstrong's Gaelic Dictionary*.

One of the most important passages relating to the *cataphracti* is an oration delivered in the Senate by the Emperor Alexander Severus, and reported in the acts of that body; see the *Life by Lampridius*, chap. LVI. 5. In an account of his victory over the Persians, he says: "We have killed 10,000, and armed our own soldiers with their arms." It should be observed that very different opinions have been expressed concerning this war with Artaxerxes (*Ardshir*) and its results. Gibbon (chap. viii. s.f. ed. Milman, viii. 354-356, who is followed by Niebuhr in his *Lectures on Roman History*, iii. 276 sq.), maintains that Alexander Severus was unsuccessful, and that "he led back to Antioch an army diminished by sickness, and provoked by disappointment." On the other hand, Guizot agrees with Eckhel that we should regard as conclusive the evidence derived from medals and inscriptions, which is corroborated by the virtuous character of the Emperor.²

¹ De Vit, *Lericon*, s.v. J. C. Zeuss, *Grammatica Celtica*, editio altera, 1871, contains Indices nominum et vocabulorum: 1. Hibernicorum; 2. Cambri-
corum; 3. Cornicorum; 4. Aremoricorum; 5. Gallicorum (et Britannicorum veterum), but I have not found therein any etymology of *Cruppellarii*.

² *Doct. Nam. Vet.* vii. 275, sq. U.C., 986, P.X. 233. "De Persis triumphat." Compare Cohen, *Médaillles frappées sous l'Empire Romain*, iv. 33, *Médaillons de Bronze*, No. 238. Rev. P.M. T.R. P. XII, COS. III, PP. "Alexandre à droite en habit militaire tenant une haste et un parazonium et couronné par la Victoire qui est debout derrière lui; à ses pieds le Tigre et l'Euphrate couchés en sens contraire,

tenant chacun un roseau et appuyé sur une urne."

Those who wish to study the use of weapons offensive and defensive in the classical period, and to extend their researches into the Middle Ages, will find their curiosity gratified by perusing Sir Samuel R. Meyrick's *Critical Inquiry into Antient Armour, as Illustrated by a Series of Illuminated Engravings*, three volumes, folio. See especially "Introduction," p. xii. sq.; p. xiv. plate III. "Asiatic Armour"; p. xl. "Équites Cataphracti." Abundant references will be found in the Index to the *Archæologia*, Vols. I.-L. p. 28 sq., the Index to the *Archæological Journal*, Vols. I.-XXV. and "Mémoires by Baron de Cosson" in subsequent volumes.

The Paulus Museum contains some relics of Roman times which do not present an appearance attractive to a superficial observer, but have great value for the antiquary.¹ I refer to six leaden tablets, inscribed with magical incantations, found near Kreuznach in the summer of 1885; two of them in a Roman urn containing copper coins of Vespasian, which of course assist us to fix the date approximately. The most remarkable case of this kind is the employment of witchcraft against Germanicus.² We are interested by the excellent character of that accomplished prince, whose merits stand out as it were in high relief, contrasted with the faults of his near relatives, "the dark unrelenting Tiberius, the furious Caligula, the feeble Claudius";³ and that interest is heightened by the narrative of Tacitus, pre-eminent among Roman historians for pathos as well as profundity of thought. He informs us [*Annals*, II. 69] that in the house where Germanicus died remains of exhumed bodies were found, magic formulae, spells, and his name inscribed on leaden tablets (*plumbeis tabulis*), ashes half-burned and besmeared with gore, and other instruments of witchcraft, by which it was supposed that souls were devoted to infernal deities. Niebuhr (*Lectures on Roman History*, iii. 177 sq.), is inclined to believe that the death of Germanicus was a natural one, and in note 2, p. 178, mentions two similar cases of suspected poison in the royal family of France; that of the

¹ *Society of Antiquaries of London, Proceedings*, Second Series, xviii. 110-112.

² Another instance is supplied by Tacitus, *Annals*, XVI. 30-32; Servilia, daughter of Barea Soranus, at his trial was accused of selling her jewels to purchase the performance of magic rites. Prostrate on the ground weeping and silent for a long time, at last she embraced the altar, and spoke in self-defence, "nullos" inquit "impios deos, nullas devotiones, nec aliud infelicibus precibus invocavi quam ut hunc optimum patrem tu, Caesar, vos, patres, servaretis incolumem," chap. 31. Comp. Virgil *Eclogue* VIII. 66, conjugis ut magicis sanos avertere sacris Experiar sensus.

³ This series ends with "the timid

inhuman Domitian and the beastly Vitellius." We cannot but admire the felicitous diction with which the emperors are characterised. The term "feeble" applied to Claudius is justified by his incoherent harangue entitled, *Claudii Imperatoris De jure adipiscendorum in urbe honorum Gallis concedendo*. What remains of it has been preserved in the Museum at Lyons on bronze tables, printed by Gruter, *Corp. Inscr.* p. DII, and again by Orelli at the end of Tacitus, *Annals*, Bk. XI. in the edition of this author revised by Baier, 1859, i. 342 seq. As we might have expected, the historian has improved upon the original speech. *Catalogue Sommaire des Musées de Lyon*, "Discours de Claude," p. 92.

Duc d'Orléans, and of the Duc de Choiseul charged with having poisoned the Dauphin, son of Louis XV.

Most tablets of this class bear Greek characters, which will not surprise anyone who has read *Caesar's Commentaries* attentively. He says that the Romans found in the Helvetian camp lists of men who could carry arms and of non-combatants drawn up in Greek letters; *Bell. Gall.* I. 29. Again, when Quintus Cicero (brother of the orator) was besieged by the Nervii and their allies, Caesar sent him a despatch consisting of Latin words written in Greek characters, to prevent the enemy from reading it (*ne intercepta epistola nostra ab hostibus consilia cognoscantur*), so that in this case the Gauls could not have known even the Hellenic alphabet; *ibid.* V. 48. The Druids, however, made use of it, being better educated than the rest, *ibid.* VI. 14 (*publicis privatisque rationibus*). Caesar's statements are confirmed by numismatic evidence, e.g. the Senones inscribed on their coins as a legend ΑΓΗΘ, i.e. "Agedicum," their capital; and the Meldi (*Melum*) ΕΠΗΝΟC, a Gallic chieftain.¹

As from a centre, civilization spread northwards from Massilia, a Phocaean colony, which caused the Gauls to be so fond of the Greeks (φιλέλληνας) that they used Greek letters in their forms for contracts.²

Sir C. T. Newton (*History of Discoveries at Halicarnassus, Cnidus and Branchidae*, ii. 719 seqq.), gives a detailed account of tablets containing incantations which were found in a temple at Cnidus. Full-page engravings 4-14 are fac-similes of inscriptions on leaden tablets; they are repeated in ordinary characters, with a copious commentary, Nos. 81-95. Their subjects are *Diraë*, solemn dedications of certain persons to Demeter, Persephone, and the other infernal deities,

¹ *Catalogue des Monnaies Gauloises de la Bibliothèque Nationale*, 1889, pp. 172, 175.

See the Atlas, folio, accompanying this work, Plate XXX. Senones, No. 7467. Potin; Pl. XXXI. Meldi, No. 7617. Bronze. Agedicum occurs in Caesar, *Bell. Gall.* VI. 44; VII. 10, 57. There are various forms of the word: Smith's *Dictionary of Greek and*

Roman Geography, s.v. article by George Long.

² *Strabo*, p. 181, edit. Casaubon, Lib. IV. cap. I. § 5.

Strabo, *loc. cit.* Didot's edition, p. 150, 'η πόλις μικρόν μιν πρότερον τοῖς βαρβάροις ἀνέιτο παιδευτήριον, καὶ φιλέλληνας κατεσκείαζε τοὺς Γαλάτας ὥστε καὶ τὰ συμβόλαια Ἑλληνιστὶ γράφειν. Strabo devotes Sections 4 and 5 of this chapter to an account of Massilia (Μασσαλία).

the name of the person thus dedicated and the cause of offence are stated. I think this author is mistaken when he translates *carmina* in Tacitus, *loc. citat.* by "poems," the word here means magic *formulae*, not necessarily in verse.¹ In the middle of No. 82 holes may be observed, probably made for nails by which the tablets were fastened to the walls. So in the Panathenaic frieze of the Parthenon, on slabs representing a procession of horsemen, there are rivet-holes for the reins, which were of gilded bronze.² Likewise in the *diplomata* (*tabulae honestae missionis*) we see holes in two sheets of metal, though which thongs, or more probably wires, passed to unite them. Good examples of these documents, reproducing the colours of the originals, are supplied by the *Lapidarium Septentrionale*, the *Malpas*, *Sydenham* and *Riveling diplomas*, pp. 3, 4, 7; they belong to the time of Trajan and Hadrian. [Compare Orelli's *Inscriptions*, i. 180. Cap. II. § 10, Galba; observe note 1, "Sex illa O foramina referunt tabulae plicatilis."]

To return to the Museum at Worms, the tablets deposited there are the only monuments of the kind that have been discovered in the parts of Germany that belonged to the Roman Empire up to the date of Dr. Weckerling's *Catalogue raisonné*, 1887.³ I proceed now to describe the first in his list. Together with No. 2, it was found rolled so as to form a cylindrical shape about as thick as a finger; its dimensions are 101-105 millimètres long, 72 mm. broad, about 1 m. thick; near the edge are two incisions 7 mm. long, perhaps made to attach a thread or wire; irregular lines across the tablets were probably caused by careless unrolling. On the outside we read *inimicorum | nomina ad | inferos*

¹ Platonis Gorgias, p. 513A, edit. Stephanus, cap. LXVIII. vol. II. sect. I. p. 297, ed. Stallbaum, *πεισόμεθα ὅπερ φασὶ τὰς τὴν σελήην καθαιρούσας, τὰς Θερταλίδας*.

Horace, *Epodes*, V. 45 :

Quae sidera excantata voce Thessala
Lunamque caelo deripit.

Ibid. XVII. 4 :

Per atque libros carminum valentium
Refixa caelo devocare sidera.

² *Ancient Marbles in the British Museum*, part VIII. p. 187, pl. XLV.; p. 197, plate L: "Professor Adolph Michaelis, Parthenon"; plate XIII. "Nordfries II." folio.

³ Weckerling gives a copious commentary on this tablet (1 Tafelchen), pp. 68-71, to which he has prefixed a general introduction on the imprecations devoting the obnoxious person to the deities of the lower world (die unterirdischen Götter).

(*deferuntur*)¹; on the inside these words are reproduced as a superscription. The outside letters were engraved as an endorsement after the tablet had been rolled up; this appears from the narrow space which it occupies: these characters are not so distinct as those inside. Traces still remain of former writing, beginning under the *O* of *nomina*, but only the letters LMV are legible, so that this side resembles a palimpsest manuscript. The inner side contains nineteen rows of words, and a twentieth added in a vertical direction on the right side.

- (3.)
1. inimicorum nomina
 2. Optatus Silonis ad infe
 3. ? ? ros
 4. —ius Nesso (?)
 5. Atticinus Ammonis
 6. Latinus Valeri(i)
 7. Adiutor Juli(i)
 8. Tertius [D]omiti(i)
 9. Mansuetus Senotaeuni ?
 10. Montanus materiarius
 11. Aninius Victor
 12. Quartio Severi
 13. Sint[o] Valentis
 14. Lutumarus Ianus
 15. Similis Crescentis
 16. Lucanus Silonis
 17. Communis Mercatoris
 18. Tul ? lius offector
 19. Nime ? ius Silvanus
 20. Co[s]sus Matui [n ?]i

[] indicates emendations or restorations of missing letters;

() expansion of abbreviations. See Dr. Weckerling, *op. citat.* 69.

¹ In this Inscription we have a one-sided account, and are left in ignorance about the enemies, what they might say as an apology, or what counter-accusations they might bring forward. Those who were tradespeople might complain that their employer was slow to pay his bills, or had not paid at all. Inscriptions containing denunciations of

individuals may remind us of Livy's *History of the Punic Wars*, which represents the Roman view of events, while, on the other hand, no Carthaginian record has been preserved. We can only hope that some day or other a discovery may enable us to realize the truth of the proverb, *Audi alteram partem*.

The name of the person who devoted his enemies to the infernal gods does not occur, and it is only a conjecture that the imprecation emanated from the individual whose remains were found near the tablet. In three instances occupations are mentioned: Montanus was a timber-merchant, Lutumarius a butcher, and Tullius or Publius a dyer. *Materiarius* is properly an adjective, and occurs with *negotianti* in an Inscription, *Orelli*, cap. XVIII. *Artes et Opificia*, No. 4248; with *faber* in *Gruter*, DCXLII, 6 (a carpenter); it is a substantive, as above, in Plautus, *Miles Gloriosus*, act III. sc. III. v. 46, and in the same sense, i.e. a timber-merchant. Professor Key's *fragmentary Latin-English Dictionary*, published posthumously, 1888, has a copious Article, divided into ten sections, on *Materia*, which he derives from *mater*, so that its primary meaning is the parent stem of a tree (as opposed to the branches), trunk; and he appositely quotes *Cicero de Oratore*, II. xxi. 88, where it is contrasted with *sarmenta*.¹ *Lanius* (in the Digest *lanio*) is a common word, used by Terence, Livy, Phaedrus, and Cicero, apparently as frequent as the English equivalent, *butcher*, among ourselves. It should be distinguished from *macellarius*, dealer in meat or other provisions. Observe that *lanius* has the first syllable short, and *luneus* (woollen) has it long; but in rapid speaking the pronunciation of both words would be nearly the same. We have here a good example of the importance of attending to metrical quantity, which, in consequence of the omission of Latin versification as a part of education, is now frequently and disadvantageously neglected.²

¹ Cicero, *De Oratore*, loc. cit. Nam sicut facilius in vitibus revocantur ea, quae sese nimium profuderunt, quam, si nihil valet materies, nova sarmenta cultura excitantur, ita volo esse in adolescente unde aliquid amputem, with Ellendt's note in the "Explicationes," vol. II. of his edition, p. 206 seq.

Some derive the name Madeira from *Materia*, the island having been covered with timber (Sp. *madera*), when it was discovered by Portuguese vessels under Genoese captains. T and D are sounded by the same organs of speech, hence they are frequently interchanged; so *civitas* becomes *ciudad*; for similar

examples, *vide* Del Mar's *Spanish Grammar*, 9th edition, p. 286.

² Prosody deserves to be studied: it induces us to observe and appreciate not only the melody of the poets but also the rhythmical structure of sentences by the prose writers; moreover it also has a close relation to philology and especially to etymology, if we are not content merely to follow usage and authority, but investigate the reason why a syllable is long or short. Persons holding high positions in our Universities are now making false quantities which formerly school boys would have been ashamed of. Such mistakes, if uttered in public

Offector, a dyer, is unusual, but is mentioned by the grammarian Festus. *Offectio*, colouring, dyeing occurs in Arnobius, a late Christian writer. These words must not be confounded with *officio* to hinder. We should rather expect to find in our Inscription *infector*, as Caesar uses *inficio*, speaking of our ancestors, *Bell. Gall.* V. 14, "Omnes se Britanni vitro inficiunt, quod caeruleum efficit colorem"; so Plautus, *Auluaria*, act III. sc. V. v. 47 says, *infectores crocotarii*, who prepared saffron-coloured garments; a curious passage, where many trades that minister to female finery are enumerated. Such words as *materiarius* and *offector* show that the study of Epigraphy produces a twofold advantage; for letters engraved on monuments, important or unimportant as the case may be, sometimes reveal the facts of history, and at other times extend our philological knowledge. Lastly, "Mercator," No. 17 in the Inscription, seems to indicate not an occupation but a *nomen proprium*. [Comp. Nos. 15, "Similis Crescentis," 16 "Lucanus Silonis"; hence the genitive denotes the father.] I have only seen Mercator once, as the name of an author, who wrote against the Pelagian and Nestorian heresies in the fifth century.¹

In the Paulus Museum at Worms the best specimen of glass is a flagon, 26 centimètres high, the lower part of which is in the form of a Janus-head, with two faces looking in opposite directions, figured in plate VIII, 1a, 1b of the Catalogue. It stood in a coffin that was uninjured, and thus, with the exception of some small cracks, was itself completely preserved. One cannot help remembering that the famous Portland (or Barberini) Vase owed its

speaking, may excite in the audience a contemptuous smile. Some recent writers maintain that versification is unnecessary, and only a waste of time which might be better employed. On the other hand, we might reply that the labour of finding words that will suit both sense and metre is a good discipline for the intellect, and that knowledge so laboriously acquired remains almost indelible, κτήμα ἑσσεῖ, a possession for ever. Thucydides. I. 22, κτήμα τε ἐς αἰὶ μᾶλλον ἢ ἀγώνισμα ἐς τὸ παραχρῆμα ἀκούειν ἐύκειται. For this purpose and the use of synonyms, the old *Gradus ab uno e Societate Iesu* may be found

useful, though it suggests many questions without answering them.

¹ The date of Mercator is known from an Epistle of St. Augustin addressed to him. In Smith's Dictionary of Biography, s.v. A.D. 218, is a typographical error for 418: Augustini Opera, Benedictine Edition, tom. II cols. 710-715, Ep. cxci. in which he combats the doctrine of Pelagius. The name occurs in Inscriptions: De Vit, Onomasticon, s.v. Marius Mercator, and in the Preface to his Lexicon in *Indice Auctorum*, p. clxxxvii. et seq.; List of twenty-seven books by Mercator, chiefly translations from the Greek. Migne, Patrologia Latina 48.

safety to the same cause, having been found at Monte del Grano near Frascati in a sarcophagus attributed to the Emperor Alexander Severus. In front of the faces the glass is as thin as paper. The bottle has received from oxidation a silvery lustre, exceptionally bright. This example is superior to one in the Royal Museum at Berlin, which wants the foot, and is also of a heavier and thicker material.¹

The upper part reminds us of Serapis, because its funnel-shaped form resembles a *modius* on his head, the usual attribute that distinguishes him; see *Tassie's Descriptive Catalogue of Engraved Gems*, Serapis, Nos. 1391-1506; and Plate XXIV. In No. 1490 we read **ϢΥΡΖ ϢΙΘ ϢΙΠΑΡΑϢ**, the characters being retrograde, which has been interpreted, There is but one living and animating Zeus, Serapis. I exhibit a cornelian formerly in the possession of the late Rev. C. W. King, inscribed **B EI CA**, apparently with the same meaning; but the difficulty lies in the first letter, which has not been explained satisfactorily hitherto. Two peculiarities are to be observed here, the late form **C** for **Σ**, as in the Codex Alexandrinus and other manuscripts; also **A** for **Ε** in the name Serapis. We meet with Sorapis in Suidas and Soroapis in "Clement of Alexandria," cited by Orelli,

¹ Further details and comparison with similar glass vessels in other collections are given by Dr. Weckerling, *op. cit.* p. 107, *seq.* I saw at Este in the Museum, opened in July of this year (1902), a head of Janus Quadrifrons described in the Guida Sommaria del Museo Atestino, p. 46, No. 203. Testa di Giano Quadrifronte, in pietra d' Istria, in proporzioni colossali. Dovea servire di coronamento ad una fontana. Rinvenuta nel 1884, nei lavori di sterro per l' arline ferroviario Este-Legnago; etc. This small town is situated at the foot of the Euganean hills, within a short distance (about 13 miles) by railway from Padua.

Under the Roman Empire it was an important place, which appears from the manner in which Tacitus, *Histories*, III. 6, mentions it, where he couples it with Padua as one of the cities occupied by Antonius Primus, commander in chief of Vespasian's army opposing the Vitellians: *Inde Patavium et Ateste partibus*

adjunxere. Sir E. H. Bunbury, in the Dictionary of Greek and Roman Geography, 1854, says that Este "contains no ancient remains, except numerous inscriptions." A perusal of the Museum Catalogue will show that this statement is no longer true. Comp. Martial, *Epigrams*, X. 93:

Si prior Euganeas, Clemens, Helicaonis oras

Pictaque pampineis videris arra jugis, Perfer Atestinae nondum vulgata Sabinae Carmina, purpurea sed modo culta toga.

Helicaonis Sohn des Antenor, Iliad, I 124, des Gründers von Patavium; Pausanias, X. 26, 7, Vgl. XIV, 152. 2. This note in Friedländer's Edition of Martial, shows that the passage is quite parallel to the expression of Tacitus, *loc. cit.*

Este is on the line of railway from Padua to Mantua, and very near Arqua (where Petrarch died), which might also be approached from Monselice.

*Excursus III ad Tacitum Hist. lib. IV. cap. LXXXIII.*¹

I now proceed to notice briefly another class of objects in the Worms Museum: surgical instruments. 1. A silver probe (*sonde*); the Latin name is *specillum*, which occurs in Cicero, *De Natura Deorum*, III. xxii. fin. § 57, where he mentions its invention.² 2. Three bronze cupping-glasses, *cucurbitae*; the word primarily means a gourd, and was applied afterwards to an instrument of the same shape. It is known to us from Juvenal, *Satire XIV.* v. 58:

*Cum facias pejora senex, vacuumque cerebro
Jam pridem caput hoc ventosa cucurbita quaerat;*

where he is pointing out the effects of a father's bad example:

whose . . . brainless head
Long since required the cupping-glass's aid!
Gifford's Translation.

Rich's Dictionary, s.v. "Cucurbita" (*κολοκύνθη, σικύα*)³ gives an example representing an ancient original

¹ C. W. King, *Antique Gems and Rings*, i, 266 *seq.* Serapis (who . . . almost engrossed the devotion of the later Roman mind) necessarily arrogates to himself an immense number of fine gems, particularly camei in the class of heads, etc.; *ibid.* ii. 48. Description of the wood-cuts, pl. XII. nos. 4-8, especially 7, Serapis, borne up by the eagle of Jupiter, with the legend ΕΙC ΖΕΥC CΑΡΑΝΙC. Some regard Serapis as an ancient Egyptian divinity, others think that his worship was introduced into that country from Sinope in Pontus. Sir Gardner Wilkinson, *Ancient Egyptians*, iv. 360-366, quotes in his text and notes many ancient authorities, Plutarch, Clemens Alexandrinus, Pausanias, Strabo, Tacitus and others. A later writer gives, I think, a better explanation of the origin of Serapis. Christian C. J. Bunsen, *Egypt's Place in Universal History*, English Translation, 1848, vol. I. The word Serapis is a corruption of Osiri-Api, 431 [445]. The statue of Serapis was brought from Sinope to Ptolemy Soter at Alexandria 431 [445]. Numerals between brackets [] refer to the second edition of Vol. I.

Among the Roman authors perhaps

the most important passage is that in which Tacitus relates the visit of Vespasian to Alexandria, and the miraculous cures said to have been performed by him at the suggestion of this deity: *Histories*, IV. 81, 83, 84. This leads him to discuss the origin of Serapis, and to give a detailed account of the circumstances under which a colossal image of the god came to Egypt; and he mentions specially that the king was influenced by the sight of a divine figure appearing to him in a dream. The following words in chap. 83, *oblatum per quietem . . . qui moneret, and Ptolemaeus . . . sacerdotibus Aegyptiorum quibus mos talia intelligere nocturnos visus aperit*, leave no doubt as to the author's meaning.

² *Loc. cit.* Aesculapiorum primus Apollinis, quem Arcades colunt, qui specillum invenisse primusque vulnus dicitur obligavisse . . . tertius Arsippi et Arsinoae, qui primus purgationem alvi dentisque evulsionem, ut ferunt, invenit.

³ *Κολοκύνθη*, is said to be the round gourd or pumpkin; *σικύα*, the long one. *Ἀποκολοκύντωσις*, is the title of a book attributed to Seneca; it means the reception of the Emperor Claudius

made out of a pumpkin, now preserved in the Vatican Library. I have not met with a similar illustration elsewhere. Among recent compilations, the most elaborate article will be found in Daremberg and Saglio, *Dictionnaire des antiquités grecques et romaines, d'après les textes et les monuments*; *Chirurgia, χειρουργία*, tome I. deuxième partie (C) pp. 1106–1115, by Dr. René Briau, figs. 1369–1415. Our information concerning ancient surgery is chiefly derived from the writings of Celsus, who flourished at the beginning of the first century A.D. and discoveries made in a house at Pompeii (*Strada Consulare*) said to have belonged to a medical man. [See Overbeck's *Pompeii*, ii. 88, fig. 278, "Chirurgische Instrumente, a-h"; and *Museo Borbonico*, tome XV. plate XXIII. which shows a *catheter* corresponding in form with the description of it by Celsus, *vulsella*¹ forceps, and *specillum* probe; the Greek word *κναθισκομήλη* indicates that there was a small cavity at the end of the instrument.] Remains of a Roman hospital have been recently excavated at Baden, in the Canton Aargau. Considering the diligence and accurate scholarship displayed by the Swiss savants on former occasions, we may expect

among the pumpkins, and is a play upon the term *ἀροθίωσις* (deification), for which the Latin word is *consecratio*, as we learn from the medals. See the article Seneca (by George Long), No. 14 in the list of his works, Smith's *Dictionary of Biography and Mythology*, iii. 781. Colocynth is well known in pharmacy as a cathartic remedy for constipation.

¹ *Vulsella* here means a kind of pincers used for extracting the fragments of a bone (Forcellini's *Lexicon*, s.v.); but sometimes it has a different signification, viz. *tweezers*, for pulling up hairs by the roots, *τριχολόβιον*. It occurs in Plautus, *Curculio*, act IV. sc. 4, v. 21, edit. Lambinus, folio, Lutetiae M.D.LXXXVII. p. 301, and commentary on the following page. The scene is an amusing one: a soldier quarrels with a pander (*leno*). The former swears by his weapons, the latter by articles of the toilet. At ita me volsellae, pecten, speculum, calamistrum meum. Bene me amassint, meaque excutia, linteumque extersum, where

Lambinus has substituted by conjecture *excutia* for *aritia*, "quae vox non est Latina." In the second line Ussing's edition, *Hauniae*, 1878, ii. 253, v. 578, reads, meaque axicia linteumque extersui; *Commentary*, p. 575, *axicia* forfices (scissors); *extersui*, i.e. ad extergendum. With *calamistrum*, curling-iron, comp. *ciniflo*, Horace, *Satires*, I. ii. 94, and *cinerarius*, Catullus, LXI. v. 134 (138).

Nunc tuom cinerarius
Tondet os.

Martial, lib. IX. epigr. XXVII. ed Schneidewin (XXVIII.), v. 5.

Purgentque saevae cana labra volsellae;

I have found no classical authority for *vulsellum*, the form of the word given in a table-case of the British Museum. On a subsequent occasion I exhibited at a meeting of the Archaeological Institute three photographs of surgical instruments in the National Collection, artery-forceps, retractor and probe, scarifier, etc.



**BRONZE STEELYARD WEIGHT IN FORM OF A TRITON'S HEAD FOUND AT
SCHWARZENACKER, NOW IN THE MUSEUM OF SPEIER.**

valuable results from their investigation of any objects that may be brought to light. If any coins or inscriptions should enable us to fix or approximate to a date, they might decide the question whether this hospital belonged to Pagan or Christian times. Inquiries of this kind have not always been conducted with perfect impartiality, the morality of heathenism has been underrated, and the cause of Christianity injured by ignorant or prejudiced advocates.

The most conspicuous object in the Museum at Speier is a legionary eagle of gilt bronze from Rheinzabern, and acquired for 200 florins by the Historical Society of the Palatinate. Experts have come to the conclusion that it is not an antique: partly because it was bought of a notorious forger, and partly because the wings are not like those of a Roman eagle as it appears on the coins. Moreover, a pedestal inscribed LIIIG is stated to have been found near it. The suspicion concerning the eagle is corroborated by the absence of any mention of the *Legio quarta gemina* elsewhere.¹

On the other hand, a bronze Triton's head used as a weight in a steel-yard, which has not given rise to any doubts, may compensate us for disappointment in the last case caused by critical inquiries. (See illustration.) Pointed goatish ears might at first sight lead us to suppose that we have here a Satyr; but the bushy locks of "dank and dropping"² hair massed together, and the eyes wide

¹ Professor Dr. Harster, *Katalog der historischen Abteilung des Museums in Speier*, p. 23. Der die Schwingen zum Flügel lüftende Adler eher einem Napoleonischen Feldzeichen gleicht als einem römischen, wie wir sie mit den senkrecht emporgerichteten Fittigen beispielsweise aus den zahlreichen Legionsmünzen des Antonius kennen. Cohen, *Monnaies de la République Romaine*, pls. V. VI. *Médailles Consulaires en or et en argent*; Antonia, Nos. 39-71, pp. 34-36, Nos. (69)-(105) *médailles légionnaires*, *Éclaircissements*, p. 39.

² Milton's smaller poems, edit. Todd, *Poetical Works*, iv. 314:

the sacred wall declares to have hung

My dank and dropping weeds
To the stern god of sea.

Horace, *Odes* I. v.

where Milton has misunderstood the

construction; *potenti* governs *maris* (ruling the sea). The mistake is the less excusable, because in *Ode* II. v. 1 of the same book we read *Diva potens Cypri*, and in *Ode* VI. v. 10, *lyrae Musa potens*.

The same author, *Paradise Regained*, III. 295: "By great Arsaces led," has made a false quantity in *Arsaces*, lengthening the penultima which is short. Again, *ibid.* IV. 68 *sq.*,

In various habits on the Appian road,
Or on th' Emilian,
he speaks of the latter road as if it led out of a Roman gate, like the *Via Appia*, whereas it extended from Ariminum (Rimini) to Mediolanum (Milan), being a continuation of the *Via Flaminia*. In the Hymn on the Nativity he has written *Delphos* instead of Delphi; v. 178, edit. Todd, iv. 254.

open as if gazing on a boundless sea, unmistakably prove that the deity is marine. His eyes and teeth are of silver, and the whole surface bears a beautiful *patina*. According to an old tradition this bronze came from Schwarzenacker, near Zweibrücken (*Deux-Ponts*), well-known in the history of literature, the Bipont editions of Greek and Latin authors having been printed there. The Museum also possesses some curious objects which were ornaments of harness; amongst them one is remarkable, because it represents the contest of an eagle with a serpent, which reminds me of the eagle and hare on Agrigentine coins (Girgenti), corresponding with a passage in the *Agamemnon* of *Aeschylus*, who had visited Sicily.¹

Both Worms and Speier are closely connected with the history of the Reformation; at the former place Luther stated his doctrines, and concluded with the famous words, *Hier stehe ich, ich kann nicht anders, Gott helfe mir. Amen*; at the latter, a majority of the Diet passed decrees condemning his tenets, which led to a protest from the evangelical princes and States, whence the name *Protestant* is derived.² Dr. Harster in his essay entitled *Versuch einer Speierer Münzgeschichte*, pp. 133–135, describes some medals struck by this city relating to the Reformation, with the legend on the reverse, E = | VANG · | REPVRGA = | TI · A° MDXVII | NVMMVS · IVBI | LÆVS · A° | MDCXV-

¹ Harster, *op. cit.* p. 19, die beliebte Darstellung des Kampfes zwischen Adler und Schlange. *Aeschylus*, *Agamemnon*, vv. 135–138, *Poetae Scenici*, edit. Dindorf.

οἰκῷ γὰρ ἐπιφθονὸς Ἄρτεμις ἄγνῃ,
πτανοῖσιν κυρί πατρός,
αὐτότοκον πρὸ λόχου μογεράν πτάκα
θυομένοισι.

στρυγὶ δὲ δειπνον αἰετῶν.

For the queen of the chase abhors the race,

The winged hounds of her father Jove:—

For they ate a tame creature all quick with its brood:

The eagles she hates, and their banquet of blood:

Conington's Translation.

For notes see Verrall's edition of the play, p. 14 seq. (1889) Eckhel, *Doct.*

Num. Vet. Sicilia, Agrigentum, vol. I. p. 192—pagurus, et aquila . . . serpentem, columbam discerpens. Leake, *Numismata Hellenica*, Insular Greece, Section II. Sicily and adjacent islands, pp. 48–50; Supplement, Europe, p. 125. Appendix to the Notes, p. [23 “*Elis*, its autonomous coins ascribed by Eckhel (I. 90–92) and others to Faleria in Etruria, Eu. 40.”]

² On his way to Worms, when attempts were made to dissuade him from entering the city, Luther said, “Und wenn so viel Teufel in Worms wären, als Ziegel auf den Dächern, dennoch wollt ich hinein.” Tillotson, in few words, but with a masterly hand, has drawn Luther's character, “a bold, rough man, but a fit wedge to cleave in sunder so hard and knotty a block.”

II, in commemoration of the Jubilee of a purified Gospel. I am informed, on good authority, that these pieces are very rare, and consequently expensive.¹

Most of our fellow-countrymen travel on the Continent for health and pleasure, many of them "march heedless on" to places of fashionable resort; but the serious student of history and antiquity cares little for the *gaudia vulgi*, and turns aside from the pursuits of a too material age; he willingly lingers in old cities like Worms and Speier, around which ennobling associations gather. There he may recruit his moral vigour, dwelling on the memory of those who fought a good fight, who laboured and struggled for truth, liberty and reform. If I may be allowed to express my own sentiments, I would adopt the words of a great scholar, and say, "O that their example and their teaching may arouse others to a like zeal in the same most holy cause."²

APPENDIX.

The trident of the *retarius* is also called *fuscina*, which is akin to *furca*, where we may observe R is convertible with S. "This change occurs to such a degree in the Latin language that one is almost at liberty to affirm that at an early period the letter *r* was unknown to the language, for every *r* in the Latin dialect seems to have been

¹ With the medal mentioned above comp. Harsted, *op. cit.* p. 148 *seq.* REFORMATIONSMÜNZEN VON 1717. A · REFORMATIONE · EVANGELICA · IVBILÆVM · SPIRENSE · SECVN · DVM · The date MDXVII has reference to Luther's ninety-five theses against Indulgences, which he posted on the doors of the Schlosskirche at Wittemberg. It has generally been accepted for the beginning of the movement which ended in a separation from the Church of Rome. Mosheim, *Ecclesiastical History*, iii. 96 *sq.* English Translation. Merle D'Aubigné, *Histoire de la Réformation*, tome I. livre III. pp. 358-360, edit. Paris, 1853. Then follows a selection of these propositions, occupying pp. 360-366. For the important date in Church history, 1517, which had

escaped my memory, I am indebted to the kindness of the Bishop of Durham (Dr. Moule). In the same year the Lateran Council (Leo X.) held its last sitting. Döllinger, *Lehrbuch der Kirchengeschichte*, ii. 367. The Pope and Cardinals were warned of the storm that was then gathering, but they fancied themselves secure.

² Archdeacon Julius Charles Hare, who edited the third Volume of *Dr. Arnold's History of Rome*, published posthumously. The words which I have applied to the Reformers of the fifteenth century are the concluding sentence of the Preface by the Editor, an intimate friend of Bishop Thirlwall, who dedicated to him the "History of Greece" that appeared originally in Lardner's Cabinet Cyclopædia.

preceded by an s;" *Professor Key on the Alphabet*, p. 91 seq. an Article that contains many examples. Compare Juvenal, *Satire* II. 143 :

"Vicit et hoc monstrum tunicati fuscina Gracchi,"

with viii. 203 :

"mouet ecce tridentem,
Postquam librâ pendentia retia dextrâ
Nequidquam effudit,"

and xiii. 81 :

"Perque tuum, pater Ægaei Neptune, tridentem."

In Greek *τρίαινα* seems to be the most common word ; but we find also *τρίοδους* and the variant *τρίῳδους*, closely resembling the Latin.

Compare with Juvenal, *Sat.* III. v. 37, cited above, J. Marquardt, *Römische Staatsverwaltung. Dritter Band, Die Spiele von Ludwig Friedlaender*, p. 564, note (10), refers to *Prudentius adversus Symmachum*, lib. II. vv. 1096—1100, speaking of the Vestals present at gladiatorial contests :

"illa
Delicias ait esse suas pectusque jacentis
Virgo modesta jubet converso pollice rumpi etc.,"

edit. Dressel, 1860, p. 298, with foot note on *converso pollice*.

As to the date of Calpurnius, a great variety of opinions have been expressed. According to Gibbon, the poet wrote during the reigns of Carus and his son Carinus, and he supposes the First Eclogue to have been composed on the accession of the former. *Decline and Fall*, chap. XII. ii. 53, Milman's edition, re-edited by Sir Wm. Smith. In *Calpurnius, ibid.* v. 50 seq.

"Nullos jam Roma Philippos
Defebit, nullos ducet captiva triumphos."

The historian sees here "a very manifest allusion" to Zenobia, Queen of the East, who followed, as a captive, Aurelian's triumphal car, A.D. 274. Merivale, *History of the Romans under the Empire*, vii. 41, 8vo. edition, assigns Calpurnius to the time of Domitian, apparently drawing this conclusion from *Ecl.* VII. 82 sqq.

"utcunque tamen conspeximus ipsam
Longius, ac, nisi me visus decepit, in uno
Et Martis vultus et Apollinis esse putavi."

These lines resemble the fulsome flattery of that Emperor so conspicuous in Martial. The following may serve as specimens of his style of adulation :

Epigrams V. iii. 5, 6.

"Sors mea quam fratris melior, cui tam prope fas est
Cernere, tam longe quem colit ille deum ;"

ibid. v. 1, addressed to Sextus, the Emperor's librarian,

"Sexte, Palatinae cultor facunde Minervae,
Ingenio frueris qui propiore dei ;

7. Ad Capitolini caelestia carmina belli
Grande cothurnati pone Maronis opus ;"

ibid. viii. 1

"Edictum domini deique nostri," with Friedlaender's note.

VIII. ii. 6

"Terrarum domino deoque rerum."

IX. xxxvi.

1. "Viderat Ausonium posito modo crine ministrum
Phryx puer, alterius gaudia nota *Jovis*."

Scholars now generally agree in assigning Calpurnius to Nero's reign. Haupt led the way in an essay entitled *De Carminibus Bucolicis Calpurnii et Nemesiani*, 1854, and others have followed in his track. Moreover, a comparison with the prose writers leads us to infer that the poet belongs to the beginning of the Neronian period, when the Emperor, under the guidance of Burrus and Seneca, excited in his subjects the hope that he would govern righteously. I cite two examples in which the diction of the poet presents a striking coincidence with the statements of the historian Tacitus and the biographer Suetonius:

Eclogue I. 69—73, Prediction of Faunus,

"Jam nec adumbrati faciem mercatus honoris,
Nec vacuos tacitus fasces et inane tribunal
Accipiet consul, sed legibus omne reductis
Jus aderit, morumque fori vultumque priorem
Reddet, et afflictum melior deus auferet aevum."

Tacitus, *Annals*, XIII. 4, Consilia sibi et exempla capessendi egregie imperii memoravit . . . nihil in penetibus suis venale aut ambitioni pervium . . . teneret antiqua munia senatus.

Ecl. VII. 23—25. Description of a wooden amphitheatre:

"Vidimus in coelum trabibus spectacula textis
Surgere, Tarpeium prope despectantia culmen,
Immensosque gradus, et clivos lene jacentes."

Tacitus, *Annals*, XIII. 31, Nisi cui libeat, laudandis fundamentis et trabibus, quois molem amphitheatri apud campum Martis Caesar extruxerat, volumina implere.

Suetonius, *Nero Claudius Caesar*, cap. 12, init. "Munere, quod in amphitheatro ligneo, regione Martii Campi intra anni spatium fabricato, dedit, neminem occidit, ne noxiorum quidem."

See the Appendix to *Ecl.* VII. in Professor Keene's edition of *Calpurnius*, to which I am greatly indebted, pp. 197—203, where (p. 198) a parallel passage from *Strabo*, book V. iii. 8, p. 236, ed. Didot, p. 196, illustrates the second extract from *Tacitus*, πλησιον δ' ἐστὶ τοῦ πεδίου τοῦτου (i.e. Campus Martius) . . . καὶ θέατρα τρία καὶ ἀμφιθέατρον. Among the earlier editors of *Calpurnius*, Wernsdorff is one of the best; in the *Poetae Latin Minores*, tom. II. he devotes pp. 1—214 chiefly to this author. Many of his notes are valuable, but we need not follow him implicitly; e.g. on *Ecl.* VII. 23 he makes the following remarks: "E sola materia lignea confectum, noli ex hoc loco colligere. Pastor pro captu et opinione sua describit."

Wernsdorff, Gibbon, and Merivale suppose that Calpurnius here

refers to the Colosseum, but obviously the words *tribus textis* are not applicable to the Flavian amphitheatre, a massive structure of great solidity, such as we see it to be even now, after all the injuries which many generations have inflicted upon it. Nibby, *Roma Antica*, i. 410-420, especially p. 412: "Durante la occupazione del Colosseo per parte de' Frangipani, l' edificio fu altamente malmenato, ed a quella epoca debbonsi attribuire que buchi che a viva forza si fecero nella commettitura delle pietre, onde portar via il piombo ed il ferro de' perni che legavano fra loro i massi, buchi che così miseramente deformano le pareti non solo di questa fabbrica, ma ancora di molte altre della stessa specie." Emil Braun, *Ruins and Museums of Rome*, 1854. The Palazzo di Venezia, the Cancelleria Vecchia, the Palazzo Farnese and Palazzo Barberini were built with stones taken from this gigantic mass.

Lanciani, *Ancient Rome in the light of recent Discoveries*, 1889, p. 15. Colosseum regarded as a mere stone quarry in the 15th century. For a general account of the Colosseum, cf. *omnino. Id. Ruins and Excavations of Ancient Rome*, 1897, book iv. sect. xiv. 369-385. *Id. The Destruction of Ancient Rome*, 1899. *Panoramic View of Rome*, by Balthasar Jenichen, of Nuremberg (folding plate), is the frontispiece, reproduced from the original in the British Museum, No. $\frac{23805}{1195}$; probable date between 1560 and 1577. The distances are in many cases very incorrect, but the map is of great interest, as it shows monuments no longer existing. A key is appended, without which it would be difficult to identify some of the buildings, and the Colosseum amongst them.

Compare with the engraving as given by Lanciani those in G. Braun's *Civitates Orbis Terrarum*, 1572, of the same period as Jenichen, but on a much larger scale. Book 4, folding Plate, "Roma antiqua duabus tabulis." Nos. 54 and 55; here the roads also leading out of the city are distinctly marked. Book 2, "Roma antiqua cum moderna"; *vid. Index generalis alphabeticus* prefixed to Book 1.

Though Gibbon is mistaken as to the date of Calpurnius, his references to this author's seventh *Eclogue* deserve our attention. *Decline and Fall*, chap. XII. notes 84, 88, 92, 95, 97, 98. *Conf. omnino* No. 95, *Eclogue* VII. 64-73. These lines are curious, and the whole eclogue has been of infinite use to Maffei (*Verona Illustrata*).

The reader may peruse with great advantage Professor Charles Keene's excellent edition of these poems, pp. 211; it contains a copious Introduction, and notes both critical and explanatory, 1887.

I have noticed the medal struck by Augustus which commemorates the recovery of standards from the Parthians. Upon it we see one figure with a bow, specially the Oriental weapon. A good illustration of it is furnished by *Lindsay's History and Coinage of the Parthians*, Plates 1-4, exhibiting 96 examples, chiefly drachms, where the bow appears almost without exception. *Eckhel. Doct. Num. Vet.* III. 545, *Reges Parthiae*, § IV, "In aversa drachmarum unicus typus: Parthus insidens sellae plerumque quatuor fulcrorum arcum inversum protendit"; *ibid.* p. 552, *Reges Persiae*, Numi *Darici* seu *Sagittarii*, B.V. Head, *Historia Numorum, Parthia*, pp. 691-696, *Arsacidæ*; *ibid.* Persia, pp. 698-701. *Darics* (gold), king kneeling right on one knee, in his right long spear, and in his outstretched left a bow, figs. 365, 366.

See also Benjamin Richard Green: *Atlas Numismatique de l'Histoire ancienne en Vingt-et-une Planches*, folio, engravings of gold, silver and copper coins, distinguished by their respective colours, and arranged in parallel columns according to chronological order, e.g. *kings of Syria (Seleucidae) and Parthia*, plate XVI. This book may be very conveniently used as a companion to historical studies.

If we turn from coins to sculptures, we find the same weapon very conspicuous. Sir A. H. Layard, *Nineveh and its Remains*, sixth edition, ii. 340, Plate, Assyrian warriors fighting with the enemy; p. 341: "The bows were of two kinds—one long and slightly curved, the other short and almost angular." Perrott and Chipiez, *History of Art in Chaldaea and Assyria*, English translation, ii. 54, fig. 22, Town besieged by Sennacherib, from the British Museum. Similar figure, 23, from Layard; fig. 31, Chariot for three combatants. *History of Art in Persia*, plate XII. facing p. 420, Susa "The Archer's Frieze," coloured; p. 424, "The guards . . . carry a bow strung on the left shoulder, and a quiver hung at the back, ornamented with top-knots and embroidery." Lübke, *Grundriss der Kunstgeschichte, Erstes Buch. Die alte Kunst des Orients*, Kap. II. "Die Kunst des mittleren Asiens A., Babylon und Ninive." Fig. 31, "Assyrische Hofbeamte." Fig. 32, Kriegsscene, Relief von Nimrud. The latter shows the king in his war chariot pursuing his enemies. Here the bow appears five times, and we may observe that the string is placed where we should not expect to find it, behind the archer's face. Lübke justly remarks that the Assyrian sculptures are not ideal, but interesting from their naïve realism. Wilkinson, *op. cit.* i. 304–312, gives a full account of the bow, "the principal weapon of offence" used by the Egyptians, the mode of stringing it and holding it, etc. figs. 25–33, including arrows. Compare figs. 53A and 57, war chariots.

Mention of this arm occurs in the Old Testament thirty-six times, e.g. Genesis xlix. 24: "his (Joseph's) bow abode in strength" (*Cruden's Concordance*); in the New Testament once, Revelation vi. 2: "And I saw, and behold a white horse: and he that sat on him had a bow." Here the Apocalyptic imagery, as in many other cases, seems derived from a Hebrew source, Zechariah vi. 1–6, the vision of the four chariots, v. 3, "And in the third chariot white horses" (*Bloomfield's Commentary, in loco*), with parallel passages in the margin. When we compare these undesigned coincidences between the existing monuments and the Scriptures, especially of the Old Testament, we cannot but observe that they furnish the strongest confirmation of the sacred text.

The bow as represented in ancient monuments may remind us how much it contributed to the success of our ancestors in the great battles of Crécy, Poitiers and Agincourt. Sir John Froissart's *Chronicles of England, France, Spain and adjoining Countries*, translated by T. Johnes, 1839, chap. CXXIX. p. 165, sq.: "The English archers . . . shot their arrows with such force and quickness, that it seemed as if it snowed." These arrows pierced their arms, heads and through their armour: illustration, "Battle of Crécy," from a MS. *Froissart of the 15th Century*, chap. CLXI. p. 218, "the horses, smarting under the pain of the wounds made by their bearded arrows, would not advance, but turned about, and by their unruliness threw their masters"; p. 219,

"the English archers were of *infinite service* to their army." In Strutt's *Sports and Pastimes of the People of England*, Book II. "Rural Exercises generally practised," chap. I. "On Archery," pp. 48-70, relates chiefly to amusement. It is adorned with coloured engravings, 9-13. P. 63, the author remarks that the arrows used by the English at the memorable battle of Agincourt were a full yard in length.

The group, consisting of a rider on horseback and a prostrate foe, placed at the top of a column (Juppitersäulen), has led me to speak of the Gigantomachia, and I therefore add some references on this subject, Winckelmann, *Description des Pierres Gravées du feu Baron de Slosch. Seconde Classe. Mythologie Sacrée.* § IX. La Guerre de Jupiter et des autres Dieux, contre les Titans, ou Géants. No. 110. Pâte ant. Jupiter sur une quadriga, qui combat Typhon, un des Titans, avec le foudre. Le même sujet avec deux Géants, exécuté en camée avec une grande finesse par un Graveur nommé AΘHNION, se trouve au Cabinet Farnese. The latter illustrates Horace, *Carm.* III. 1-7.

"Clari Giganteo triumpho."

C. W. King, *Antique Gems and Rings*, 1872, vol. II. pl. XI. no. 4; Description of the Wood-cuts, p. 48. The famous cameo by Athenion, with signature in relief (Naples). *Marlborough Gems*, catalogued by Story-Maskelyne, "The Gods—Zeus," No. 15, a copy. C. O. Müller, *Ancient Art and its Remains*, English translation, p. 425, § 351, Remark 2. Zeus Gigantomachos. Millin, *Galerie Mythologique*, plate IX. no. 33, text, pp. 110 *seq.*, with references to other Plates.¹

Pausanias mentions incidentally the success of Attalus in his war with the Gauls, I. VIII. 2 (*Attica*): Μέγιστον δέ ἐστίν ὃι τῶν ἔργων Γαλάτας γὰρ ἐν τὴν γῆν, ἣν ἔτι καὶ νῦν ἔχουσιν, ἀναφυγῆν ἠνάγκασεν ἀπὸ θαλάσσης. *Ibid.* XXV. 2, Γαλατῶν τὴν ἐν Μυσίᾳ φθοράν. *Ibid.* X. xv. 2, a curious passage, where the same author informs us that Phaennis in an oracle had predicted the defeat of the Gauls a generation before it took place:

τάχα γὰρ σφιν ἀοσητήρα Κρονίων
 Ὀρμήσει, ταύροιο διοτρεφέος φίλον υἱόν,
 Ὃς πᾶσιν Γαλάτησιν ὀλέθριον ἡμᾶρ ἐφήσει.
 Πᾶντα δὲ ἔπε ταύρου τὸν ἐν Περγᾶμυ βασιλεύσαντα
 Ἀτταλον.

Frazer's *Translation of Pausanias*, v. 312, *seq.* "Commentary on Book X." note, the Oracle is quoted by Suidas (*s.v.* Ἀτταλος). It predicts that Attalus (ταυρόκερως, bull-horned) and his children's children will attain to royal dignity.

Pausanias, *loc. citat.* ed. Siebelis, iv. 205, gives this Oracle in Greek, with a note, "Et Alexandrum Magnum ut Ammonis filium, et successores ejus in numis cornigeros conspici, Facius monuit (Sebastian Faesch). Spanheim De praestantia et usu numismat. antiquor." i. 387-403, *De Cornutis Alexandri M. et Successorum numis.* Compare horn on the head of Alexander the Great as Zeus Ammon, coin of Lysimachus; Sir William Smith's *Classical Dictionary*, last edition, 1894, *s.v.* Ammon.

¹ See also in Vol. II. *Explication des Planches.*

Congiarium occurs in earlier writers, also in Suetonius, *Augustus*, c. 41, "Congiaria populo frequenter dedit, sed diversae fere summae: modo quadringenos, modo trecenos, nonnunquam ducenos quinquagenosque numos." *Id.*, *Tiberius*, c. 20. Nero, c. 11, "Sparsa et populo missilia omnium rerum per omnes dies." Daremberg et Saglio, *Dictionnaire des Antiquités Grecques et Romaines*, tome premier, deuxième partie (C), p. 1443, col. 2 figs. 1894, 1895, 1896, and especially 1897. "Sur un bas-relief de l'arc de Constantin à Rome, l'empereur est représenté distribuant un *congiarium*; la scène se rapproche beaucoup de celles qui sont figurées sur les monnaies." Art. by the Abbé Thénenat. *Eckhel*, *op. cit.* vol. VIII. 117, coin of Constantius II.: "Novum nunc in numis nomen LARGITIO cum antea pro hoc *Liberalitas*, *Congiarium* in usu esset." *Conf.* Cohen, vol. vi. plate vii. No. 164, described p. 303.

For the Vangiones the most important passages are the following: Tacitus, *Annals*, XII. 27 "Dein L. Pomponius legatus auxiliares Vangionas ac Nemetas, addito equite alario (*immittit*). Duo hi populi inter se vicini fere semper junguntur." *Germania*, c. 28 Ipsam Rheni ripam haud dubie Germanorum populi colunt, Vangiones, Triboci, Nemetes, with Orelli's copious note.

Ptolemy II. ix. 9, Νεμήτων μὲν Νοιάματος Ῥουφινιάνα, Ὀναγγιόνων δὲ Βορβητόματος Ἀργεντόρατον Λεγίων ἢ Σεβυστή (VIII.), Τριβόκων δὲ Βρενκόματος Ἐλεκηβον. Turning from the historian and geographer to documents still extant, we find the capital of the Vangiones in the Antonine Itinerary and the Table of Peutinger.

A Mediolano (Milan) per Alpes Penninas Mogontiacum.

Tabernis (Rheinzabern)	...	...	...	mpm XIII
Noviomago (Speier)...	...	...	...	mpm XI
Borbitomago (Worms)	...	...	...	mpm XIII
Bauconica (Oppenheim)	...	...	...	mpm XIII
Mogontiacum (Mainz)	...	...	...	mpm XI

Item a Treviris (Trèves) Argentorato (Strasbourg).

No. 6. Borbitomago, on this route also.

Itin. Antonini edit. Parthey and Pinder, pp. 168, 178; edit. Wesseling, pp. 355, 374.

The Table, Segmentum II. B, edit. Mannert, has Bonconica, XI.; Borgetomagi XIII.; Noviomag XII. It will be observed that the Table differs sometimes from the Itinerary not only in the names of towns, but also in the distances.

We often meet with *magus* as a termination of ancient Gallic towns, e.g. Juliomagus (Angers), Rotomagus (Rouen). *Conf. omnino* Zeus, *Grammatica Celtica*, p. 4 (6), a long note.* "Vox—*magus* frequentissima in nominibus locorum gallicis compositis cum nominibus propriis ut Caesaromagus, Juliomagus, Drusomagus, Borbetomagus . . . Noviomagus, Nivomagus, Rigomagus, &c. Hibernice simplici *mag* significatur campus . . . campus quem Scoti vocant *Magh* Sceithi, i.e., campus scuti." *Armstrong's Gaelic Dictionary*, s.v. *Magh*, a field, a plain, a level country, a field of battle, a surface. Durocort ou les Rémois sous les Romains par feu Jean Lacourt, Chanoine de Notre-Dame de Reims, Chapitre X. Nom gaulois de la ville de Reims, p. 87.

The importance of the collection at Worms is shown by the refer-

ences made to it in the *Proceedings of the Society of Antiquaries of London*, Second Series, xviii. 110-112, "Notes on a bronze ewer found at Wheathampstead, Herts," woodcut on p. 111, by C. H. Read, Secretary. It is explained by comparison with a bronze vessel from a woman's grave at Wonsheim, now in the Paulus Museum. *Ibid.* 117, paper by F. Haverfield, F.S.A., "on an inscribed Roman ingot of Cornish tin, etc." Illustration showing stamps upon it, to face p. 118: DD (?) NN. probably = *dominorum nostrorum*. "This formula occurs on a lead pig found at Worms and now preserved in the museum there." Eckhel, *Doct. Num. Vet.* vol. VIII. cap. VI. De titulo *Dominus Noster* et ΒΑΣΙΛΕΥΣ Augustis Caesaribusque dato. In numis Antiochiaë Pisidiaëque cum capite Caracallæ et Getæ VICT. DD. NN.

Martial mentions a Frontinus twice, *Epigrams*, X. xlvi. 20, ed. Friedländer:

"De Nomentana vinum sine faece lagona,
Quæ bis Frontino consule trima fuit."

The Delphin edition and Schneidewin read *prima*.

Ibid. LVIII. Ad Frontinum, vv. 11-14:

"Sed non solus amat qui nocte dieque frequentat
Limina, nec vatem talia damna decent.
Per veneranda mihi Musarum sacra, per omnes
Juro deos, et non officiosus amo."

Martial's life extended from A.D. 43 to the close of the first century, and Frontinus was consul for the second time in the year 98; Friedländer's edition of the poet, *Einleitung*, Sect. III. *Chronologie der Epigramme Martials*, S. 65. Clinton, *Fasti Romani*, i. 27, 85, 87. The date in the first extract should be observed, as it coincides with the latter part of Martial's life. In the second extract the lines agree with what we know from other sources concerning the high social position of Frontinus. Martial excuses himself for not paying him the attentions which were usually due from a client to a patron. Hence, though absolute certainty cannot be attained, we may regard it as highly probable that the Frontinus of Martial is the same as the author of the *De Aqueductibus* and *Strategematicon*. Frontinus held the office of *curator aquarum*, A.D. 97, so that he had abundant opportunities of studying this branch of architecture: *De Aquæ Ductibus Urbis Romæ Liber*, cap. 102. Imperatore Nerva III. et Verginio Rufo III. consulibus, ad nos cura translata est.

Niebuhr refers to the *Strategematicon* in his account of the Third Samnite War, *Roman History*, English Translation, iii. 361 *seqq.* and notes 615-618, 620; and notices fragments usually ascribed to Frontinus in his *Dissertation on the Agrimensores or Rei Agrariæ auctores*, *ibid.*, ii. 634-644, Appendix II. Descending to a much later period, we find an important passage, *Strateg.* I. iii. 10, "Caesar Domitianus Augustus, cum Germani more suo e saltibus et obscuris latebris subinde impugnarent nostros tutumque regressum in profunda silvarum haberent, limitibus per centum viginti milia passuum actis non mutavit tantum statum belli, sed et subiecit ditioni suæ hostes, quorum refugia nudaverat. Duruy, *Histoire des Romains*, iv. 698 *seqq.* especially 700 and notes. Here it is worth while to compare with Frontinus similar expressions in the *Life of Hadrian* by Spartianus, chap. XII.

Per ea tempora et alias frequenter in plurimis locis in quibus barbari *non fluminibus sed limitibus* dividuntur, stipitibus magnis in modum muralis sepiis funditus jactis atque connexis, barbaros separavit; quoted by T. Hodgkin in "The Pfahlgraben," an essay on the Roman Boundary-Wall, reprinted from the *Archæologia Eliana*, p. 48. See the notes of Casaubon and Salmasius (Saumaise) in *loco*, *Augustan History*, edit. Lugduni. Batav, A° MDCLXXI, pp. 113–115. Hadrian, though well known to us on account of his Roman Wall in Britain, has not obtained from posterity all the credit due to him as a constructor of barriers. Domitian, like Nero, began with good government, which did not last long: Suetonius, *Life of this Emperor*, chaps. 7–9.

The testimony of Ammianus Marcellinus also is valuable, lib. XXVIII. ii. 1, edit. Eyssenhardt, 1871, p. 406. "Valentinianus . . . Rhenum omnem a Rhetiarum exordio ad usque fretalem Oceanum magnis molibus communiebat, castra extollens altius et castella turresque assiduas per habiles locos et opportunos, qua Galliarum extenditur longitudo." *Id.* XXVIII. vi. 2. "Valentinianus enim studio muniendorum limitum . . . flagrans, trans flumen Histrum in ipsis Quadorum terris quasi Romano juri jam uindicatis aedificari præsidiaria castra mandavit, ed. Eyssenhardt, p. 457. These authors receive their best elucidation from the Reports of the Reichs-Limes-Kommission; *Der Obergermanisch-Raetische Limes*, and similar publications for Austria issued by the Kaiserliche Akademie der Wissenschaften. On the other hand, explorers would act wisely if, before they began to excavate, they studied carefully the Greek and Latin authors, especially Strabo, Pausanias and Pliny, who often supply indications as to the localities in which interesting remains are likely to be found. From neglecting these literary suggestions, we have often remained long in ignorance of buildings and sculptures by which they were adorned.

The temple of Diana at Ephesus is mentioned by Fergusson, *History of Architecture* (1865), i. 224: "It covered 93,500 feet, an area exceeding that of any ancient temple out of Egypt . . . Even its site, however, is now a matter of dispute;" *ibid.* 244–246, "Not a vestige of it has come down to our days." Now the researches of Mr. T. J. Wood, formerly Consul at Smyrna, have made us well acquainted with it. In the introduction to his work entitled *Discoveries at Ephesus*, 1877, he says, "many even doubted whether such a building ever existed." See his Plan of the Ruins, with the site of the temple of Diana, near a swamp, built there to protect it from earthquakes. *Confer. omnino Pliny, Nat. Hist.* lib. XXXVI. cap. XIV. § 95, edit. Sillig, "In solo id palustri facere ne terræ motus sentiret aut hiatus timeret; rursus ne in lubrico atque instabili fundamenta tantæ molis locarentur ea substravere carbonibus, dein velleribus lanae." *Ibid.* V. XXIX. § 115, "Fons in urbe Callippia et templum Dianæ complexi e diversis regionibus duo Selenuntes." Marshes are marked in the map on both sides of the river Cayster.

Guide to the Exhibition Galleries of the British Museum, with maps and plans, 1890, published by order of the Trustees, p. 14, "Room of Archaic Greek Sculpture—Ephesus." "Fragments from an earlier

temple." P. 16, *seq.* The most remarkable object here is a sculptured drum from one of the columns of the temple. It is supposed to represent "Thanatos (Death) and Hermes conducting Alcestis from Hades." Wood, *op. cit.* 188-190, gives an account of the discovery of this interesting fragment: *Pliny*, XXXVI. 95, columnæ centum viginti septem a singulis regibus factæ, LX pedum altitudine, ex iis XXXVI caelatae, una a Scopæ, where the epithet *caelatae* should be particularly noticed. "It is supposed that only the lowermost drum was sculptured, the rest being fluted." The group of figures above mentioned, now deposited in the British Museum, is engraved as the frontispiece of Wood's book on Ephesus.

Tacitus, *Annals*, book III. chaps. 60-63, gives an account of embassies to the Senate from Greek cities in Asia claiming the right of asylum for their temples, c. 60. "Graecas per urbes licentia atque impunitas asyla statuendi." c. 61, "Ephesii adiere . . . auctam hinc concessu Herculis . . . caerimoniam (sanctity) templo, neque Persarum ditione deminutum jus"; post Macedonas, dein nos servavisse." *Περὶβολος* is an enclosing wall (*māceria*), surrounding the sacred precincts. Furneaux, second edition of the *Annals*, 1896, has a good note on the last clause, with reference to Wood, *op. cit.* Appendix, p. 2, Inscriptions from the Peribolus of the Artemisium and the Agasteum. Imp. Caesar divi f. Aug. . . . ex reditu (from the revenues of the temple) Dianæ fanum et Augusteum muro muniendum curavit. The *περίβολος*, as fixed by Augustus, has been discovered, *cf.* text, pp. 131-133, and wood engraving on last page.

For the right of sanctuary in Christian times, consult Hallam, *State of Europe during the Middle Ages*, eleventh edition, 1856, iii. 302 *seq.* chap. ix. part I. "State of Society." "In the rapine and tumult of the Middle Ages, the right of sanctuary might as often be a shield to innocence as an immunity to crime." Allusions to this right will be found at a late period: Manzoni, I Promessi Sposi. *Storia Milanese del Sec. XVII.* edit. 1833. Tomo I. *Capitolo IV.* p. 85, "Sarebbe stato lo stesso che rinunziare ai proprii privilegi, screditare il convento presso tutto il popolo, attirarsi l'animavversione di tutti i cappuccini dell' universo per aver lasciato ledere il diritto di tutti, concitarsi contra tutte le autorità ecclesiastiche, le quali allora si consideravano come tutrici di questo diritto."

The Article "Asylum (*ἄσυλον*)" in the *Encyclopaedia Britannica*, ninth edition, ii. 825, ends with a quotation from Livy, XXXV. 51, "Templum est Apollinis Delium, imminens mari: quinque millia passuum ab Tanagra abest . . . Ubi et in fano lucoque ea religione et eo jure sancto, quo sunt templa, quae asyla Graeci appellant . . ." This Delium must not be confounded with the island Delos which Livy mentions XLIV. 29, also with special notice of its sacred character, "Sanctitas templi insulaeque inviolatos praestabat omnes."

The following Inscription, in which the name of Maxentius occurs, is copied from Hefner's *Römische Bayern in seinen Schrift- und Bildmalen*, München, 1852, p. 273, No. CDVIII, *Denkmal. Rom.*, Taf. V. fig. 8.

D. N. MAXENTI AVG

P.PR

CK

Form. Ein runder *Stempel* aus Blei mit sehr tiefgeschnittenen Buchstaben, von denen D N MAXENTI AVG in einem Kreise herumlaufen, PPR und CK in der Mitte in 2 Zeilen stehen. Die Schrift ist zum Abdruck bestimmt und verkehrt. DN=Domini Nostri. P.PR=Pro Praetore. CK=Conjugi Karissimo, or in the feminine gender. Vide Gerrard, *Siglarium Romanum*. De Vit, *Onomasticom*, gives a list of three Maxentii in *historia Ecclesiastica*. Among them is No. IV. "Episcopus Tigamibenensis, inter eos recensitus, quos *Humericus* Vandalorum rex ob fidem Catholicam in exilium pepulit a. 484." I have not been able to identify with certainty Tigamibenensis as belonging to any town in North Africa; the name that comes nearest to it is Thigiba (Tigiba), *Corp. Inscr. Lat.* vol. VIII. part I. "Africa," No. 2568, line 78.

L ORBIVS PROVINCIALIS TICIB.

For the Arian persecution of the Vandals, see *Gibbon*, chap. XXXVII. edit. Milman, vi. 265-274; he describes in detail "the most cruel and ignominious treatment of the Catholics," p. 272.

Σπείρα sometimes is equivalent to *manipulus*, or two centuries, as in Polybius, XI. (IA). xxiii. 1: *τρῆς σπείρας* (τοῦτο δὲ καλεῖται τὸ σύνταγμα τῶν πεζῶν παρὰ Ῥωμαίοις κοόρτις). This word occurs three times in the New Testament, and means a *cohort*: Acts of the Apostles x. 1, Ἀνὴρ δὲ τις ἐν Καισαρείᾳ ὀνόματι Κορνήλιος, ἑκατοντάρχης ἐκ σπείρης τῆς καλουμένης Ἰταλικῆς. Alford, *in loco*, cites *Gruter Inscr.* vol. I. p. cccxxxiv. *Foro Sempronii*, a town of Umbria, hodie Fossombrone, on the river Metaurus; the last lines are

COH . MIL . ITALIC . VOLVNT
QVAE . EST . IN . SYRIA . PRAEF
FABRVM . BIS

Cohors militum Italicorum voluntaria fabrum bis. *Comp. Dict. of Antiqq.* third edition, 1890, i. 791, s.v. *Exercitus*, "Special Extra Legionary Troops," § 2, "Cohortes civium Romanorum." Acts xxi. 31, Ἀνέβη φάσις τῇ χιλιάρχῃ τῆς σπείρης ὅτι ὅλη συγκέχυται Ἰερουσαλὴμ. Here the word *χιλιάρχος* serves to explain *σπείρης* in juxtaposition with it, for the former is literally the commander of a thousand men. and corresponds, though not exactly, with the Roman *tribunus militum*. The phrase *ἀνέβη φάσις* (tidings came up) should be noticed, because the fortress Antonia and barracks within it (*παρεμβολή*, not *castle* as in the Authorized and Revised Versions) were on high ground, and afforded a view of the Temple. So it is said that the tribune ran down (*κατέδραμεν*), and stairs, *ἀναβαθμοί*, are mentioned below, verse 34. Antonia, formerly called Baris, was re-named by Herod the Great in honour of his friend Mark Antony the Triumvir: Conybeare and Howson, *Life and Epistles of St. Paul* (1860, 4to.) ii. 259-262. This book contains in foot notes many references to Josephus, both the History of the Jewish War and the Jewish Antiquities, and it is interesting to observe how closely in topographical details his statements coincide with St. Luke's narrative.

Acts xxvii. 1: we read at the beginning of the account of St. Paul's voyage to Rome, *παρεδίδουν τὸν τε Πάλλον καὶ τινὰς ἑτέρονς δεσμώτας ἑκατοντάρχη ὀνόματι Ἰουλίῳ σπείρης Σεβαστῆς* (*cohortis Augustae*). Alford has a long note on this passage, he appears to follow Wieseler

in identifying the *σπειρα Σεβαστή* with the *evocati Augusti*. *Dict. of Antiq.*, loc. citat. p. 792. Compare Tacitus, *Annals*, XIV. 15, Tuncque primum conscripti sunt equites Romani, cognomento Augustanorum, aetate ac robore conspicui. Suetonius, Nero Claudius Caesar, c. 25. sequentibus curram ovantium ritu plausoribus, "Augustianos, militesque se triumphij ejus," clamitantibus. Dion Cassius, *History of Rome*, LXI. 20, has *Ἀνγούστειοι*.

It will be remembered that St. Paul was tried before this Emperor, and it is not an improbable conjecture that he pleaded his cause in the Basilica Æmilia on the north side of the Forum Romanum. It was rebuilt three times. A denarius of this gens bears the legend AIMILIA REF M. LEPIDVS S. C. (REF is the abbreviation of *refecta*), and shows two rows of columns, one above the other. We may remark that the Romans favoured a vertical arrangement, but that the Greeks cultivated a horizontal style of architecture. Cohen, *Médailles Consulaires*, Planche I. Aemilia, No. 8, text, p. 10; Babelon, *Monnaies de la République Romaine*, p. 114. Compare Cicero, *Ad Atticum*, IV. xvi. 14. Paullus in medio foro basilicam jam pæne texuit iisdem antiquis columnis: illam autem, quam locavit, facit magnificentissimam. *Conf. omnino* Tacitus, *Annals*, III. 72. "Isdem diebus Lepidus ab senatu petivit ut basilicam Pauli, Aemilia monimenta, propria pecunia firmaret ornaretque, erat etiam tum in more publica munificentia; nec Augustus arcuerat Taurum, Philippum, Balbum hostiles exuvias aut exundantis opes ornatum ad urbis et posterum gloriam conferre. quo tum exemplo Lepidus, quamquam pecunie modicus, avitum decus recoluit," with the notes of Lipsius and Orelli. These passages are the best commentary on the coin above mentioned, which being of the republican period shows an archaism, AI for AE, in the first syllable of the legend; so we have AIDILIS three times in Orelli's *Inscriptions*, p. 149, from the tomb of the Scipios; and DVELONAI = Bellonæ in the beginning of the "Bacchanalian Inscription," 2nd line, now preserved in the Museum at Vienna: *Uebersicht der Kunsthistorischen Sammlungen des Allerhöchsten Kaiserhauses*, Saal, XIII. p. 88, "die älteste aller erhaltenen römischen Staatsurkunden und eines der wichtigsten Documente für die Geschichte der lateinischen Sprache." Drakenborch's 4to. edition of *Livy* contains a good facsimile of the inscription as an illustration of the text, vol. vii. p. 197. The commentary on this inscription extends from page 197 to 222.

Some have supposed that there was a connection of clientship between Paul's family and the Æmilian house. However this may be, the Apostle bore the same name as the most distinguished member of that gens, Lucius Æmilius Paullus Macedonicus, who defeated Perseus in the battle of Pynda, B.C. 168. *Conybeare and Howson*, i. 187, note 3; ii. 578, note 3, 8vo. edition.

Gibbon calls Claudius "feeble," but there were some redeeming features in his character. He wrote histories both in Greek and Latin; he was also an antiquary, and is said to have restored the Duilian Inscription. Moreover, his taste for architecture appears in the aqueduct which bears his name, *Aquæ Claudia*, a structure which the traveller from Rome to Naples will never forget, because for a considerable distance it is parallel to the line of the railway.

The use of the word *carmen* when it does not mean a poem is well

explained in De Vit's edition of *Forcellini's Lexicon*, 16 ("Item pro incantamento, quod verbis fit; *incantesimo*, 17). *Praeterea dicuntur carmina formulae quaedam certis verbis compositae ut Jurisconsultorum, Praetorum, Fecialium, Imperatorum in obsidione urbium Deos evocantium, se devoventium, etc.*, "Cicero, *Pro Murena*, cap. XII. § 26." Praetor interea ne pulchrum se ac beatum putaret, atque aliquid ipse sua sponte loqueretur, ei quoque *carmen* compositum est, cum ceteris rebus absurdum, tum vero in illo: 'SUIS UTRISQUE SUPERSTITIBUS PRAESENTIBUS ISTAM VIAM DICO: ITE VIAM.' Here evidently *carmen* is applied to prose composition. So Halm explains it by "*Spruch, Formel*," fifth edition of this oration, 1893, p. 29.

Compare with Monnaies Gauloises cited above, pp. 172, 175, Duchalais, *Description des Médailles Gauloises de la Bibliothèque Royale*, p. 150, seq. Nos. 432, 433. Senones, Agedincum. Deux chèvres debout opposées l'une à l'autre. M. de Longpérier . . . y a reconnu avec raison une imitation des médailles frappées dans les villes macédoniennes de Thessalonique et Amphipolis. *Catalogue of Hunter's Collection*, by Combe, 1782, p. 24, Amphipolis. Duo hirci erecti coniscantes; *ibid.* p. 328, Thessalonica, similar type. *Greek coins in the Hunterian Collection*, edited by Macdonald, 1899, Vol. I. "Italy, Sicily, Macedon, Thrace, Thessaly," p. 276. Two goats contending, on their hind legs, face to face; *ibid.* p. 366. Leake, "Numismata Hellenica," *European Greece*, p. 11, Amphipolis; p. 104, Thessalonica.

For variants of Agedincum consult the *Antonine Itinerary*, edit. Parthey and Pinder, p. 183, Item a Caracotino Augustobonam usque, which has Agedincum. Comp. *Ptolemy* II. viii. 9:

Σένονες ὡν πόλις Ἀγῆδικον (hodie Sens).

In the notes we find agredincum, agredicum. *Tabula Itineraria Peutingeriana*, ed. Mannert, Segmentum I. c. has "Agetincum." The site of Caracotino is doubtful, and it has therefore been assigned to different places, "*Criquetôt* (Reichard), *Château-Crélin* (Lapie); Harfleur (Mannert, Walckenaer)." See the index to *Parthey and Pinder*. Comp. Brunet, *Supplément au Manuel du Libraire—Dictionnaire de Géographie ancienne et moderne*. *Caracotinum*, *Graville*, près Harfleur, etc. *Augustobona* was the city of the Tricasses in Gallia Lugdunensis; *Ptolemy*, II. viii. 10, Τρικασιοὶ καὶ πόλιν Ἀυγουστόβωνα, hodie Troyes. In the Table of Peutinger it is marked Aug. Bona. Brunet, *op. citat.* s.v. Trecae (Augustobona), gives a detailed account of the topography of Troyes.

This place by its name reminds us of Juliobona near the embouchure of the Seine, and opposite Quillebeuf; here also we have a word compounded of a Roman prefix and a Celtic termination. It is the first station after Caracotinum in the section of the Itinerary mentioned above, and its importance is shown by the roads leading hence to Rotomagus (*Rouen*), Noviomagus (*Lisieux*), and Lutetia (*Paris*). In the modern name Lillebonne the initial letter L is an abbreviation of the article. Orderic Vitalis says, "barbari nunc Illebonam nuncupant." The same change occurs in the Département de Lot, which is so called from the River Oltis (L'Olt). See article "Juliobona" in *Smith's Dictionary*, *op. cit.*, by G. Long. Ordericus flourished in the twelfth

century, and wrote the *Historia Ecclesiastica* 1123–1142. It has been fairly estimated by M. Guizot, also by M. Léopold Delisle in the *Nouvelle Biographie Générale*.

Lillebonne is about twenty miles east of Havre, and easily accessible by a branch railway from Bréauté-Beuzeville on the main line of the Chemin de Fer de l'Ouest. It contains considerable remains of a Roman theatre which are well known; but a mosaic discovered 8 March, 1870, is less likely to have attracted general attention. This interesting work of art was announced for sale at the Hôtel des Ventes, Paris, 16 May, 1885. MM. Rollin and Feuardent were employed as experts, and published a *Notice Explicative*, 4to., with three lithographs on a large scale. The mosaic lay buried in a garden of the Saint-Denis quarter, only 50 centimètres below the surface of the soil, nearly perfect, and 50 square mètres in extent. It was divided into twenty-two portions, and great pains were taken to prevent injuries during the removal. Apollo pursuing Daphne is the principal subject, surrounded by four scenes with figures of smaller dimensions. She is represented on her knees and semi-nude. Apollo is recognised by his laurel crown; so Horace says, *Odes* IV. II. 9, with reference to Pindar,

Laureâ donandus Apollinari.

Compare *Virgil, Eclogue*, VII. 62,

Fornosae myrtus Veneri, sua laurea Phoebo.

These two personages occupy the central space enclosed by a circular cable-pattern; outside is a square border whose four interior angles are filled by four vases (*canthari*) of elegant shape, and palm-branches on both sides of them. The four lateral compartments offer to the spectator a variety both of human beings and animals. Here we see men on horseback hunting hares and stags in a forest, and in one division a sacrifice to Diana, goddess of the chase, whose image stands upon an altar.

Above and below the chief personages we read two inscriptions, black letters well formed on a white ground.

1. T(itus) . SEN(nius) . FILIX . C(ivis) . PVTEOLANVS . F(ecit).

2. ET . AMOR . C(ivis) . K(arthaginensis) . DISCIPVLVS.

Made by Titus Sennius Felix, citizen of Puteoli, and by Amor, citizen of Carthage, his pupil.

Hence it appears that a mosaicist, doubtless eminent in his profession, was brought from the Bay of Naples to a remote city in Gaul. For the same purpose Italians have been frequently employed in our own country; however, as the decorations of St. Paul's prove, we are now beginning to design and execute such work for ourselves. The unusual form FILIX for FELIX should be observed. On a coin of the Gens Cornelia FEELIX occurs, which may remind us that E is long in the ordinary spelling of the word. De Vit, *Lexicon*, gives various forms, Fiilix, felex, filix, filicissimus. *Conf.* the Art. FELIX in his ONOMASTICON (*nomina propria*), where he cites many recent authorities. Cohen, *Médailles Consulaires*, plate XV. No. 25, obv. FEELIX; p. 108, Tête de Bocchus? à droite diadémée et avec la peau de lion. Babelon, *Monnaies de la République Romaine*, i. 422, no. 60, Buste de Jugurtha . . . avec la peau de lion sur les

épaules. Rev. FAVSTVS : pp. 420-424, § 12, contain a full explanation of the coins struck by Faustus Cornelius Sulla, son of the Dictator.

Ovid tells the story of Apollo and Daphne at great length in the first book of his *Metamorphoses*, vv. 452-567, edit. Burmann, ii. 59-68. Fabula IX, Argumentum, Daphne Penei filia in laurum. He ends with a lively description of the use of the laurel in historic times :

"Semper habebunt
Te coma, te citharae, te nostrae, laure, pharetrae.
Tu ducibus Latiis aderis, cum laeta triumphum
Vox canet ; et longae visent Capitolia pompae."

Compare Horace, *Odes*, III. xxx. fin.

"et mihi Delphica
Lauro cinge volens, Melpomene, comam."

The readers of Milton will remember the following lines in the *Paradise Lost*, book IV. vv. 272-275 :

"nor that sweet grove
Of Daphne by Orontes, and th' inspir'd
Castalian Spring, might with this Paradise
Of Eden strive."

"The Castalian spring there, of the same name as that in Greece, and extoll'd for its prophetic qualities," note in the excellent edition by Thomas Newton, D.D., some time Bishop of Bristol. *Strabo*, lib. XVI. p. 750, edit. Casaubon ; vol. VI. p. 306, edit. Siebenkees, Ὑπέρκειται δὲ τετταράκοντα σταδίου (about 5 miles) ἡ Δάφνη, κατοικία μετρία μέγα δὲ καὶ συνηρεφὲς ἄλσος, διαρρέομενον πηγáις ὕδασι. Apart from his usual, though not unfailing accuracy, we should here expect an exact description, as the author was a Greek of Asia Minor, born at Amasia, capital of the kingdom of Pontus, on the River Iris. Gibbon, *Decline and Fall*, chap. XXIII. vol. IV. pp. 110-112, edit. Milman, notes 104-109. Conybeare and Howson, *Life and Epistles of St. Paul*, 4to. edition, i. 135, with notes 1-8. Facing page 132 is a fine engraving of Antioch as it now appears, and at p. 134 a plan of ancient Antioch, on which the Daphne Gate is marked.

The glass vessel at Worms in the form of *Janus bifrons* assists us to understand an allusion in Persius, *Satire* I. 58 :

"O Jane, a tergo quem nulla ciconia pinsit,
Nec manus auriculas imitata est mobilis altas,
Nec linguae, quantum sitiati canis Appula, tantum !
var. lect. albas.

O Janus, happiest of thy happy kind !—
No waggish stork can peck at thee behind ;
No tongue thrust forth, expose to passing jeers ;
No twinkling fingers, perk'd like ass's ears,
Point to the vulgar mirth."

Gifford's Translation,

with his note, "I have frequently seen the modern Italians follow an unfortunate wight *occipiti caeco*, and ridicule him with the most expressive and ludicrous signs. The 'ass's ears' and 'the stork's bill' are still the popular modes of scoffing." The Scholiast explains, "ciconia dixit, quia manus solent formare inrisores . . . ad similitudinem ciconini rostri." But for Janus the *locus classicus* is Ovid, *Fasti*, Book I. vv. 65-288.

The primary meaning of *ciconia* (Fr. *cicogne*) is a stork, the secondary is a derisive gesture with the hand like a stork's bill. The stork appears among the emblems of the months in the great mosaic found at Vienne and now deposited in the Louvre; also on the *denarii* of the gens *Caecilia*; Cohen, *Médailles Consulaires*, plate VIII. figs. 10 and 11; Babelon, *Monnaies de la République Romaine*, i. 275, Nos. 43, 44. See my paper on the antiquities of that city, *Archaeological Journal*, 1895, li. 377-379.

In the prose writers the most important passages relating to Janus are St. Augustine, *De Civitate Dei*, Book VII. Chaps. VII.-X. 7th vol. of the Benedictine edition, folio, and Macrobius, *Saturnalia*, I. ix. 7. The title of Chap. VIII. in the former is, *Ob quam causam cultores Jani bifrontem imaginem ipsius finxerint, quam tamen etiam quadrifrontem videri volunt*. He refers to the derivation of Janus from *janua*, and ends with the words, *Ego sum janua*. St. John's Gospel, x. 7, ἐγώ εἰμι ἡ θύρα τῶν προβάτων. Macrobius, *loc. cit.* Sed apud nos Janum omnibus praeesset januis nomen ostendit, quod est simile *θυραίων*. *Ibid.* § 8, Pronuntiavit Nigidius Apollinem Janum esse Dianamque Janam. *Ibid.*, § 11, *Cicero . . . non Janum sed Eanum nominat, ab eundo*. Cicero, *De Natura Deorum*, II. xxvii. 67, with the notes of Davies. Here, as elsewhere, this author is not successful in etymology. See the copious Index (II.) to Macrobius, ed. Ludovicus Janus, 1852. Compare Preller (French Translation), *Les Dieux de l'ancienne Rome*, *Janus*, pp. 124-136, p. 125, Janus serait la même chose que Dianus, le masculin de Jana ou Diana, La Lune. Comp. *Professor Key on the Alphabet*, p. 56, "Di before a vowel is changed into a g or j, as Dianus or Janus, the god of light (dies) in Roman mythology; Diana or Jana, the goddess of light. So Diespiter and Jupiter are the same name." From the Latin *diurnus* the French and English word *journal* is obviously derived.

Numismatists are familiar with representations of Janus, because it is a device usual in the Roman copper coinage; we also find it on pieces which appear to have been struck in imitation of the Greek drachma. Babelon, *op. cit.* *Classement chronologique*, i. 21-23, Tête laurée et imberbe de Janus; p. 34, AEs grave libral, Tête barbue de Janus bifrons; p. 50, Tête laurée de Janus; au-dessus I, Rev. ROMA. Proue de navire; à droite I. *Recherches sur la Monnaie Romaine depuis son origine jusqu'à la mort d'Auguste*, par M. Pierre-Philippe Bourlier, Baron D'Ailly, tome I. planches iii. iv. v. *As*, Droit; tome II. 2^e partie, planches lxxviii.-lxxxvii. *bis*, where Janus with two faces appears on every page.

I have mentioned Arqua on account of its proximity to Este. It is situated in the beautiful scenery of the Euganean hills, and often visited, as Petrarch was buried there. His tomb of red Verona marble stands on four pillars in the churchyard. Murray, *Handbook for Northern Italy, Venetian Province*, Route 32, p. 401, edit. 1863. The Inscription is given by Baedeker, *Italie Septentrionale*, 1899, p. 283. Lord Byron has made this village still more famous by stanzas in *Childe Harold*, Canto IV. xxx.-xxxii.

"There is a tomb in Arqua; — reared in air,
Pillared in their sarcophagus, repose
The bones of Laura's lover:"

See also *Historical Notes to Canto the Fourth.* ix. Petrarch, Moore's edition of *Byron's Life and Works*, viii. 288—290. Two sepulchral monuments of similar construction are to be seen at Bologna near the Church of San Domenico, founder of the Inquisition; one of them is the tomb of a learned jurist, Passaggeri, *Murray's Handbook*, *op. cit.* p. 485. The traveller in Italy will find old Guide-books useful as well as new ones, because they contain much information about interesting monuments visited in the days of posting, but now neglected, either wholly omitted or slightly noticed, by recent compilers, who adhere too closely to railway routes. He who would investigate the Antiquities of that country and explain them to others must resemble "an householder who bringeth forth out of his treasure things new and old," *καὶνὰ καὶ παλαιά*, St. Matthew's Gospel, xiii. 52.

For the visions (*Tacitus*, *Hist.* IV. 81, 83, *loc. cit.*) of enthusiastic patients and the healing of their maladies, see *Two Lectures by Dr. Caton on the Temples and Ritual of Asklepios at Epidauros and Athens*. Delivered at the Royal Institution of Great Britain, 1899, illustrated by many plates; *conf. omnino* Inscriptions on stone tablets, pp. 33—35. The subject may remind us that the Wise men were warned in a dream not to return to Herod, and that an angel in the same manner commanded Joseph to take refuge in Egypt: Matthew ii. 12, 13. Similarly, a vision appeared to Paul in the night, Acts xvi. 9.

In Pliny, *Historia Naturalis*, XXXVII. cap. V. sect. 19, § 75, ed. Sillig, we read the following passage, (1) *se autem scribente* (Theophrasto), *esse in Tyro Herculis templo stelen amplam e zmaragdo* (emerald) *nisi potius pseudozmaragdus sit . . . Apion cognominatus Plistonices paulo ante scriptum reliquit esse etiam nunc in labyrintho Aegypti colossum Serapis e zmaragdo novem cubitorum*," where the words *nisi potius pseudozmaragdus sit* should be noticed, as they refer to the imitation of emeralds in glass. Apion, whom Pliny cites as an authority, flourished in the reigns of Tiberius and Caligula, and is often mentioned by Josephus. Wilkinson, *op. cit.* iii. 88—103, gives a detailed account of the invention of glass and its principal uses, also of false stones, p. 99, quoting Pliny, *ibid.* cap. XII. sect. 75 § 197: "Non est zmaragdo alia imitabilior gemma mendacio vitri." Of course it would be absurd to suppose that a statue thirteen feet and a half in height could be made of any jewel, hence the word *pseudozmaragdus* (a counterfeited emerald) is certainly correct.

Catalogue of the Slade Collection. Printed for private distribution, 1871. Edited by Alexander Nesbit, with very fine illustrations; 22 plates are coloured. "Glass-making in Egypt," pp. III.—V.

For the probe as used by the ancients see Stephanus, *Thesaurus Graecae Linguae*, published by Didot, vol. iv. col. 2042. *Κυθότακος τῆς μῆλης* dicitur Chirugici specilli pars altera concava, in parvi cyathi modum, qua aliquid vel extrahi vel infundi potest. *Conf. omnino* Article *μῆλη*, vol. V. cols. 975—977, especially 975, containing quotations from *Celsus*, V. 28; VII. 21, 27. Many improvements might have been made in modern Greek Lexicons if the compilers had consulted this valuable work more frequently. A similar observation will apply with still greater force to the Egyptian papyri of the Ptolemaic period discovered within the last few years. See the

Athenaeum, 18 October, 1902, Article on "Classical Philology," p. 517 seq. *Lexicon Graecum Suppletorium et Dialecticum*, H. van Herwerden. "The new papyri alone have added hundreds of words to the vocabulary—many of them, especially in the Petrie collections, being no jargon, but good classical words," &c.

Wilkinson, *Ancient Egyptians*, pp. 61, 62 and 146—151, furnishes us with a detailed account of the papyrus and the mode of making paper from it; but as his book was published in the year 1837, we must not expect to find in it recent discoveries which have given extraordinary interest to this plant in connexion with language and literature. Papyrus in *Herodotus* is called βύβλος. Euterpe, II. 92, with Bachr's note, *De hyblo loci primarii, cum Nostro conferendi, sunt Theophrasti Hist. Plant.* IV. 9, p. 54 (IV. 8, ed. Schneider), et *Plinii hist. nat.*, XIII. cap. XII. sectt. 23—26, §§ 74—83, ed. Sillig, ii. 387—389; beginning with Praeparantur ex eo chartae diviso acu in praetenus sed quam latissimas philuras (thin layers). The word Hieratica, which we see sometimes in our stationery, is well explained by Pliny's words religiosius tantum voluminibus dicata. In the same passage other kinds of paper are described.

The Paulus Museum at Worms is so-called from the Pauluskirche, the collections having been deposited in the interior of this Church, restored in the beginning of the eighteenth century. Baedeker 19 route, p. 125, edit. 1886.

There is no need to relate here the proceedings of the Diet held at Worms in 1521, when Luther appeared before the Emperor Charles the Fifth; but attention may be directed to the great Reformer's monument in this city—one of the finest groups of historical statuary that have ever been executed; once seen, it cannot be forgotten. In the middle Luther stands on a lofty pedestal; his face is turned upwards with trust in God; his attitude expresses confident assertion, and his left hand holds the Bible. This figure is said to be the most characteristic representation of him in Art. As we gaze upon it, we seem to hear him uttering the memorable words, "Hier stehe ich, ich kann nicht anders, Gott helfe mir! Amen!" At the four corners of the pedestal are seated precursors of the Reformation—Savonarola, Huss, Wycliffe and Peter Waldo. The personages surrounding the central statue are learned men and princes who embraced the Reform; with these are placed allegorical figures of cities which espoused the same cause, Augsburg, Speier, and Magdeburg, whose mournful aspect indicates sufferings endured in war. This magnificent memorial was unveiled in 1868, and in the following year an interesting pamphlet, pp. 88, appeared, entitled *Wormser Luther—Büchlein oder Luther und die übrigen Kämpfer des Wormser Lutherdenkmals*; within a few months five large editions were sold. It is divided into four sections: 1. The Precursors of the Reformation (*Vorkämpfer*); 2. Dr. Martin Luther. See especially *The Diet (Reichstag) at Worms*, pp. 41—48; 3. Luther's associates, Melancthon and others (*Mitkämpfer*); 4. Description of the Monument. On the front of the cover is an engraving of the group of statues, and on the back a ground-plan. Photographs, large and small, can be easily obtained.

In addition to the references already cited for the Vangiones and their capital Borbetomagus, we may notice also Tacitus, *Hist.* lib. IV.

The historian in the earlier chapters of this book has related the formidable revolt of the Batavian chieftain Civilis, and the disasters which befell the Roman armies. But at last the tide turns, chaps. 68–70. Mucianus shows the utmost energy, pours the legions through the Alpine passes Great and Little St. Bernard, and summons troops even from Spain and Britain, acting on the principle so clearly enunciated by Lord Nelson, “Numbers alone can annihilate.” At the same time Vindonissa (Windisch), a most important military station, is occupied by Sextilius Felix. Under these circumstances the Vangiones, as we learn from chapter 70, where they are twice mentioned, at first serve under the Treveran leader Tutor, and afterwards, at the approach of the Roman forces, return to their former allegiance, *honesto transfugio rediere*: *Merivale*, vi. 514–517, 8vo. edition.

Books descriptive of coins, generally without Plates, must be supplemented by others containing engravings or photographs. For the eagle in ancient medals the following may be consulted: *Catalogue of the Hunter Collection at Glasgow*, edited by Combe, *Tabulae* 68, better than earlier works of the same kind, in which artists too often have not copied the originals faithfully. Combe has assigned to Falisci types which belong to Elis, mistaking the digamma for the Latin F. A new *Catalogue of Greek Coins in the Hunterian Collection, University of Glasgow*, is now in course of publication, edited by G. Macdonald; two volumes 4to. have already appeared: I. *Italy, Sicily, Macedonia, Thrace and Thessaly* 1899, Pls. I.–XXX.; II. *North Western Greece, Central Greece, Southern Greece and Asia Minor*, 1901. Pls. XXXI.–LXII. These are some of the finest examples of the eagle in Greek art. B.V. Head, *Historia Numorum*, pp. 353–357, figs. 232–236. For illustration the Numismatic Chronicle of the Numismatic Society will be found most useful, each quarterly part containing photographic reproductions, e.g. Pls. XV. XVI. XVII. 1902, Pt. IV. A collection of 686 coins, chiefly of Gaul, has been recently acquired by the British Museum, which was previously weak in this department.

Natural history as portrayed in coins is well represented in the following work, *Tier- und Pflanzenbilder auf Münzen und Gemmen des Klassischen Altertums von Imhoof-Blumer und Otto Keller*. XXVI. phototypische tafeln mit 1352 Abbildungen. *Tafel IV. Vögel*, Nos. 28–40, p. 28 sq., esp. No. 29, *Zwei Adler l. einen Hasen zerreissend; im Felde r. Heuschrecke*.

Rev. ΑΚΡΑΓΑΣ. Quadriga im Galopp l., von einem Jüngling geleitet; darüber l. emporfliegender Adler; unten eine Krabbe. Prachtvolles Stück.

No. 30. ΣΤΡΑΒΩ. ΑΚΡΑΓΑΝΤΙ—ΝΟΝ. Adler l. auf eine Schlange zufliegend. Rev. *Tafel VII. No. 2.*

No. 34. Adlerkopf rechtshin.

Rev. Geflügelter Blitz zwischen F—A in einem Blätterkranz.

Hemidrachme von Elis.—Brit. Museum.

The eagle appears on an interesting gem. *Tassie's Catalogue*, vol. ii. p. 575, No. 9923 Eschyle . . . portant le gobelet à la bouche, pendant qu'un aigle vole audessus de lui ayant entre ses griffes la tortue fatale, qu'il fit tomber sur sa tête chauve. Donaldson, *Theatre of the Greeks*, sixth edition, Introduction, p. 73, “the story is evidently an invention.”

Valerius Maximus, lib. IX. c. 12, ext. § 2, p. 726, ed. Carolus Kempfius, 1854, Aeschylus vero poetae excessus quemadmodum non voluntarius, sic proper novitatem casus referendus, *et seqq.*

Another medal struck at Speier deserves attention, because the design is complicated and the historical interest is great. The obverse and reverse are engraved as the frontispiece of Dr. Harster's book already cited. A hand stretched out from the clouds pours water on two hands similarly placed. This reminds me of the Divine arm seen in the later Roman coins, symbolizing a special Providence interposing in human affairs. Near the centre of the medal a hand holds a crucifix, with words immediately under it, MORIAR. QUĀ. FALLĀ. Below, a lion lies holding a dog with his fore-paws, MENS. GENEROSA underneath. A legend is inscribed on the border ALTERIVS * ALTERA * POSCIT * OPEM * PARCIT * SVBIECTIS * 1627 * XBR—Reverse. A garden surrounded by a stone balustrade, and divided in parterres; in the centre we see a bee-hive on a massive platform, a flower blooming under it, and the words SEN. SPIR. The back-ground is occupied by the Cathedral, a plantation, and part of the town wall with four towers close together. Above these buildings are the sun, crescent moon and the armorial bearings of a Dean. Inscription on the border, Winckelmann, *Description des Pierres Gravées du feu Baron de Stosch*, 1760. *Quatrième classe, L'Histoire Ancienne*, section I. p. 417, No. 51, Pâte antique. Eschyle . . . est représenté portant la Tasse à la bouche. *Idem*, *Monumenti Inediti*, Tomo II. *Parte Terza*, p. 223. Capitolo V. Eschilo. L'artefice . . . non contento dell' atto dell' aquila . . . sovrastante al poeta, sembra averci voluto far ravvisar anche costui dal soverchio diletto ch' egli aveva di bere sino a non saper compor le tragedie ch' e'l fece, se non era riscaldato dal vino. This interpretation might be supported by a reference to Horace, *Epistles*, I. xix. 5 *seqq.*

"Laudibus arguitur vini vinosus Homerus :
Ennius ipse pater nunquam, nisi potus, ad arma
Prosiluit dicenda."

with note in the edition of Obbarius, who quotes the epithets that Homer applies to wine, p. 496, *ἐνὶ νόρῳ, μελίφρονα, μελιηδέα, θύιον ποτόν, ἡδύποτον*.

Baumeister, *Denkmäler des Klassischen Altertums*, i. 34, s.r. Aischylos, Götting ingeniously explains the gem as a symbol of *Apotheosis*. Die *χάραξ*, d.h. die Lyra erhebt sich auf den Adlerfittigen der Poesie zum Himmel, während der Dichter in der Gabe des Dionysos (Bacchus) schwelgt. Abb. 36. The illustration is excellent. Again we may appeal to Horace in favour of this widely different opinion as to the motive of the artist. *Odes*, III. xi. 3, Tuque testudo resonare septem Callida nervis; compare the Homeric hymn, Merc. 51, Hom.: ed. Ernesti, vol. V. p. 38, Glasgow, Ἐπὶ δὲ συμφώνους οἶων ἐπ' ὀρέσσαστο χορδαί, cited by Wickham *in loco*. According to this view the eagle is carrying the lyre up to heaven, as he bore aloft Ganymede to wait upon Olympian Jove; Müller-Wieseler, *Denkmäler*, pl. XXXVI. No. 148, p. 27; see my paper on the "Antiquities of Sens," *Archaeological Journal*, lvi. 367, *seq.* text, and note 2. Hermes is said to have invented the lyre by stretching strings on the shell of

the tortoise (*testudo*), which acted as a sounding board. Liddell and Scott, *Lexicon*, χέλυς (*χελώνη*).

Testudo as a military term means a covering to protect besiegers, arched like a tortoise-shell. W. Froehner, *La Colonne Trajane, Première Guerre Dace, Troisième Campagne*, § 56, p. 117, *Retranchement dace attaqué par les légionnaires qui se sont rangés en tortue*. Plate intercalated in the text. Fabretti, *Colonna Trajana*, folio, *Tavola XXXVII. No. 212*. La scultura presenta la forma della Romana Testuggine, con la quale i soldati serrati e coperti dal loro scudo, si assicurano dal grandinare dei sassi, e dall' impeto dei dardi scagliati dall' inimico. Rich, *Companion to the Latin Dictionary*, has a good illustration, *s.v. Testudo*, taken from the Antonine Column repeated in Smith's *Dictionary of Antiquities*, third edition, ii. 808.

For the eagle as a decoration of harness we may compare Lindenschmit, *Die Alterthümer unserer heidnischen Vorzeit, Zweites Heft—Tafel V, ii Geräthe*. C. Eisenperiode. Beschläge von Wagen- und Pferdegeschirr. Römisch. No. 4. Vorderes Diechselfeschlag in Gestalt eines Adlerkopfes mit dem sogenannten Aufhalter in Form eines Hahnenkopfes. Erz.

A parallel case in our own country is supplied by the *Proceedings of the Society of Antiquaries*, 13 June, 1901, Second series, xviii. 373, Report by Robert Munro, M.A., M.D., Local Secretary for Scotland, Section II (a), Excavations on Roman Stations conducted under the auspices of the Society of Antiquaries of Scotland. "The presence of these clay sling-bolts (found at Ardoch), together with the few ornamented *harness-mountings*, may therefore suggest that Late-Celtic civilisation had also preceded the advent of the Romans into North Britain." Dr. Munro mentions the discovery of 75 pellets of burnt clay, conically shaped at both ends like the leaden sling-bolts used by the Romans.

* DVLCIS * CONCORDIÆ * FRVCTVS * DANTE * DEO * DVRABIMVS.—1627.

The city of Speier was condemned by the Imperial Chamber to compensate the Prince-Bishop for the destruction, in league with Pfalz, Baden and Wurtemberg, of the fortifications of Udenheim. The Bishop demanded 175,000 reichsthaler; his claim was reduced to 100,000, with interest at 4 per cent., and 4,000 florins yearly. Speier applied to the Imperial Cities (free towns), Frankfort, Nuremberg and Strassburg for a loan. Neither capital nor interest was paid. In 1649 the Town Council obtained from the Imperial Court a revision of the litigation about this debt. This was opposed on the part of the Bishop, and a new law-suit commenced, which was not decided even in 1776. I have abridged Harster's narrative of these proceedings, *op. cit.* p. 138, *seq.*

In some of the coins of Speier we may note the combination of the Imperial and Royal titles, which was by no means common at the period.

Otto I. the Great (936–973, Emperor from 962).

+ OTTO REX IMP. Reverse, + ∞ PIRACI. Harster, p. 95, No. 1. It is like what finds place in the case of his present Majesty :

BRITT : OMN : REX F : D : IND : IMP :

Otto III. (983-1002, Emperor from 996).

+ OTTO + IMP AVG. Rev. ∞ CA MARIA, Church.

We may observe that the legend here describes the Cathedral as dedicated in honour of the Blessed Virgin Mary. In a document dated 782 (Charlemagne), it is mentioned as *ecclesia domne Marie, vel domni Stephani* (the proto-martyr) in *civitate Nemetense seu Spirense*; but afterwards as *domus sancte Marie virginis*. Harster, pp. 95-97.

Heinrich III. (1039-56, Emperor from 1046).

(+ HE)INRICVS (REX) king's head bearded. Rev., NEME (TIS CIVIT)AS. Galley with cabin or church. Ein auf ein Schiff gestelltes Kirchengebäude . . . so dass dadurch die Bedeutung der Stadt zugleich als eines von Konrad II. und Heinrich III. mit herrlichem Dome geschmückten. Bischofssitzes und eines vielbesuchten Handels- und Ueberfahrtsplatzes am Rheinstrom bezeichnet würde, *ibid.*, p. 99, *seq.*

For the money of the Othos see Lelewel, *Numismatique du Moyen-Age. Troisième Partie. Les Trois Ottons* (936-1002), pp. 127-139; *Naissance de la monnaie épiscopale sous les Ottons*, 960-1000, pp. 139-149; *Monnaie des seigneurs laïques des duchés de Souabe et de Lotharingie sous les Ottons* (936-1002), pp. 149-151. *Conf. Atlas, Tables Chronologiques*, Tab. XIV.; et *Planches Numismatiques*, Pl. XVIII. Otho the First well deserves the title of Great, because he restored and appropriated the Western Empire, enlarged the Kingdom of Germany on every side, obtained the nomination of the Popes, and gained a decisive victory over the Turks: Gibbon, *Decline and Fall*, edit. Milman, ix. 188, 194; x. 205, 206. The historian invites our attention especially to the authority which the Emperors exercised at Rome, vol. ix. chap. xlix. p. 194, note 127. *Firmiter jurantes, nunquam se papam electuros aut ordinaturos praeter consensum et electionem Othonis et filii sui* (Liutprand), l. vi. c. 6, p. 472.

A Diet was held at Speier in the year 1526; it was favourable to the Reformers, and enacted that the Princes should manage the religious concerns of their respective territories, as they saw fit, until a general Council was called. In the second Diet, 1529, this decree was annulled, the proceedings at Worms were confirmed, and no further innovations were allowed, Mosheim, *Ecclesiastical History*, English Translation, iii. 123-126. However, the Emperor was unable to carry out these ordinances, as the Turks were advancing towards Austria, and he needed the assistance of the German princes to repel them. The next Diet was held at Augsburg, 1530, when the famous Confession, named from this city, was published, being founded on the 17 Torgau Articles composed by Luther, but enlarged to the number of 28. The translator has supplied a summary of them in the notes, Mosheim, *op. cit.* iii. 138-141. They are followed to some extent in the Thirty-Nine Articles of the Church of England.

Luther could not be present at this assembly, because he was an outlaw, under the Ban of the Empire, but he approved of the Confession drawn up by Melancthon, which bears the impress of his character; Merle d'Aubigné, *Histoire de la Réformation*, iv. 193, Melancthon . . . s'appliquait à faire une exposition de la foi chrétienne, douce, modérée, et qui s'éloignât le moins que possible de la doctrine de l'Eglise latine. When this document was sent to Luther for his opinion,

he replied, "Magister Philipps Schrift gefällt mir sehr wohl, und ich weiss nichts daran zu bessern, noch zu ändern ; würde sich auch nicht schicken, denn ich so sanft und leise nicht auftreten kann. Christus, unser Herr, schaffe, dass sie viel und grosse Frucht bringe, wie wir hoffen und bitten. Amen !" Wormser Luther Büchlein, Speyer und Augsburg, pp. 57-59. The Confession was presented to the Emperor, Charles V. in a hall of the Bishop's Palace, now called the *Residenz*. For the general history of this period, see D'Aubigné, *op. cit.* iv. 186-303.

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21st July to 28th July, 1904.

Tuesday, 21st July.

The Lord Mayor of York (Alderman Edwin Gray), who was accompanied by the Sheriff of York (Mr. F. Shann), Aldermen W. McKay, E. W. Purnell, L. Foster and S. Border, the Town Clerk of York (Mr. Percy Dale) and others, received the members of the Institute at 12 noon, in the ancient Guildhall. Among those present were Sir Henry H. Howorth, K.C.I.E., F.S.A., President of the Institute, Sir George J. Armytage, Bart., F.S.A., President of the Meeting, Sir Thomas Brooke, Bart. F.S.A., President of the Yorkshire Archaeological Society, Sir Edward Green, Bart., Sir Joseph S. Rymer, Mr. W. W. Morrell, the Rev. W. Haworth, F.S.A., Mr. C. E. Elmhirst, Mr. G. Benson, Dr. Tempest Anderson, Lieut.-Colonel Fagan, Mr. W. Brown, F.S.A., Mr. Hetherington Smith, Mr. C. A. Bradford, F.S.A., Mr. J. L. Thomas, F.S.A., Mr. S. J. Chadwick, F.S.A., Miss Hulme, Mr. E. K. Clark, F.S.A., Mr. H. Wilson, F.S.A., Rev. Canon, Mrs., and Miss Wilson, Mr. and Mrs. Garraway Rice, Mr. H. Plowman, F.S.A., Mr. Walter Rowley, F.S.A., Mr. and Mrs. R. E. Goolden, Rev. Canon Freer, Rev. E. H. and Mrs. Goddard, Mr. E. W. Brabrook, C.B., F.S.A., Miss Brabrook, Rev. E. C. and Mrs. Robinson, Dr. Bensly, F.S.A., and Miss Bensly, Mr. and Mrs. J. Bilson, Mr. P. M. Martineau, Rev. A. D. Hill, Mr. W. H. St. John Hope, Hon. Mrs. Wilkinson, Mr. and Mrs. Hale-Hilton, Mr. and Mrs. Morton-Palmer, Dr. F. Collins, Mons. Enlart, Mr. W. H. Bell, Dr. Oliver, Professor E. C. Clark, F.S.A., Mr. H. Longden, Mr. G. Le Gros, Mr. W. H. Brierley, Rev. E. S. Bartlett and Mrs. Bartlett, Mrs. J. E. Tanner, and Mr. H. M. Platnauer.

In opening the proceedings the LORD MAYOR said : It is with much pleasure that I beg, on behalf of the City of York, to welcome you, Mr. President, and the members of the Royal Archaeological Institute. It is a long time since you paid a visit to York, and I doubt not that if there are any here who visited it in 1846 they will find the old city a good deal changed ; a good deal of the quaintness, old houses, and narrow streets, so pleasant to the eye of the artist, but so inconvenient and undesirable in other ways, have gone. A ferry at Lendal sounds very nice and used to look so, but if a train has to be caught, not once a year but once a week, and very often more frequently, a bridge is found rather more convenient. It falls to this Corporation to endeavour to grapple with the difficulties which may be said to some extent to be a legacy from former generations : I refer to the Building and Sanitary regulations of the past 100 years. From one's knowledge of what triumphs can be gained under the feeble regulations devised by the Governments of to-day, in the way of narrow streets and jerrybuildings,

one cannot lift a stone to fling against those who did these things in past years. At all events, buildings then were honestly built. Happily your studies and investigations are directed to earlier days than those to which I have been referring. If you should in your walks through the city see any erection, glass, or building of a public character, which offends your sense of good taste or congruity, let it pass without ridicule, breathing only a sigh of pity. They did their best according to their lights, and the early Victorian age was not remarkable for artistic feeling. I think I may claim that the Corporation is now fully alive to the necessity of not only sparing, but also of preserving all those remains of the past which either from their antiquity or beauty are left to us, and are amongst our most cherished possessions. If there be manifested any suggestion of removing or altering any of these, have we not at our elbow our very candid friends, the Yorkshire Philosophical Society? By resolutions, remonstrances, letters in the Press, in the freest of language, we are warned of our contemplated crime. It is the nature of things, however, that the old order should change; and it is to be expected though regretted that from time to time most interesting old houses belonging to private persons should disappear, giving place to more commodious modern buildings. I spoke just now of the Yorkshire Philosophical Society. For its work, the Council deserves the greatest praise, and the thanks of the citizens and archaeologists are due to them, for all they have accomplished in preserving to us so much of what we now possess of the records of the past. I have the honour of claiming that my grandfather, Jonathan Gray, was one of the original founders of the society, and I have always been proud of an unbroken connection with the society from that time. If I might make a criticism or suggestion, I would say that the treasures and advantages of the society are too strictly preserved, and would suggest that in consideration of a subsidy from the Corporation, with a representation on the Council, the benefits of the society might be more popularly enjoyed. I hope that the important discoveries as to the early form of St. Mary's Abbey will be fully appreciated by your members. It is one of the causes of the continued vitality of archaeological research that there is always a possibility of a fresh discovery, or of finding good grounds for upsetting theories which have hitherto stood. Each man desires not only to read, but to see, compare, and deduce for himself. We are presently to hear your president's address: you cannot therefore expect from me, who make no claim to be an archaeologist beyond loving and admiring the work of the master minds and skilful hands of past centuries, even the smallest exposition of the many interests of our city. The study and knowledge which your great society has for so long existed to promote, can only have beneficent effect on mankind. Surely the man who appreciates the interests and beauties revealed by such study, besides gaining pleasures of the widest, must learn reverence, and to appreciate the beauties of form and style. What a help to education and refinement! Such a man should never commend that which is false, meretricious, or ignoble, or do anything which would offend against that first great canon of all art, Truth. I will end by again bidding you welcome to York, and hoping your stay may be enjoyable and instructive.

At the close of the Lord Mayor's address the party adjourned to the Council Chamber, where the President of the Meeting, Sir GEORGE J. ARMYTAGE, Bart., delivered his Presidential address. He said :

In taking the chair at this meeting to-day I feel somewhat keenly the position in which I am placed. You will understand that it is the custom of the Royal Archaeological Institute to invite some one in the county they are visiting to preside at their meeting, and I must thank Sir Henry Howorth and the members of the Institute for the great honour they have conferred upon me in asking me this year to take this honourable position. I can truly say that we in Yorkshire are much pleased by the selection of our county for their annual meeting by this learned Society, and I feel sure that their visit will not only give an enormous amount of pleasure to those who appreciate the history and antiquities of this part of England, but will, I hope, prove an incentive to further work and interest in the future. I am sure that it is your wish that before mentioning any other matter I should express our gratitude and thanks to the Lord Mayor and citizens of York for the kind manner in which they are receiving us, and for the cordial greeting they have accorded to us. I understand it is the custom on these occasions that the President of the Meeting should deliver an address. This, I can assure you, is no light duty in the presence of so many eminent persons to whose qualifications I can certainly have no pretensions. You are all probably aware that the last occasion on which the Institute visited York was in the year 1846, and I believe that I am right in saying that the volume produced on that occasion has been generally accepted as a standard work on the history of York and its neighbourhood. More particularly may I refer to that excellent paper on the architectural history of York Minster by Professor Willis, which is probably more often referred to than any other work on the subject. This afternoon the members of the Institute will, by the kindness of the Dean of York (who has written two massive volumes on the heraldry of the Minster), have an opportunity of visiting this magnificent cathedral under the guidance of Mr. J. T. Micklethwaite, himself a Yorkshireman, and whose knowledge of its history is probably unequalled at this present time. The beautiful building at the east end of York Minster will also be seen to-day. It has lately been purchased by the Convocation and House of Laymen of the Northern Province. It is much dilapidated, but it has passed into their hands on the express condition that it is to be thoroughly restored. It is intended to convert it into a Church House, providing accommodation for the two Houses of Convocation and for the House of Laymen. It was founded in 1453 as a College for the Parsons and Chantry Priests of the cathedral to reside in. We shall also, by the kindness of Mr. Frank Green, have an opportunity of seeing the Treasurer's House, which has lately been restored by him. But I am afraid I cannot undertake to mention the many and varied objects of interest in this great county to which your attention will be drawn during the present meeting. I may, however, state generally that the leading features of our programme appear to be the large number of old historical castles which we shall see. On Wednesday, under the guidance of Mr. Bilson, you are to see Wressle Castle, which is said to have been built by Thomas Percy, Earl of

Worcester, in the reign of Richard II. On Thursday we go to Bolton, where Mary Queen of Scots was for some time a prisoner. This was also built in the time of Richard II. by Richard, Lord Scrope, and some centuries later was defended by Colonel Scrope for the King in the civil wars, but eventually had to surrender. In the afternoon we go to Middleham, which is said to have been built by Robert Fitz Ranulph about 1190. Here Edward IV. was confined by the Earl of Warwick, but he escaped, levied an army, and obtained a victory over his opponent. King Edward IV. (whose son Edward was born here) subsequently gave the castle to his brother Richard, Duke of Gloucester. On Friday we are to have a joint day with the Yorkshire Archaeological Society, to visit those churches in York which contain ancient glass, under the guidance of Mr. Westlake, and in the afternoon Mr. Micklethwaite will describe Clifford's Tower, and we shall visit the ruins of St. Mary's Abbey, as well as the Merchant Adventurers' Hall. Conisborough Castle, whose site is said to be that of a Saxon stronghold, will be visited on Saturday, and cannot fail to be of interest. Here Richard, Earl of Cambridge, grandson of Richard III., was born, and as you are probably aware, one of the principal scenes in Sir Walter Scott's romance of Ivanhoe was laid here. I have only given you a brief survey of some of the places, which amongst many others are to be visited, and I have not attempted, nor should I dare to attempt in the presence of so many experts, to enlarge upon their archaeological and architectural details. But that we have a rich feast before us there can be no doubt.

If time permitted, I should much like to give the members some idea of the work which has been done during the last thirty years by the Yorkshire Archaeological Society, of which my friend Sir Thomas Brooke is the President, and by other archaeological societies in the country, but I am afraid that in doing so I should only weary you. The *Journal* of the Society is accessible to all, and I think I may, with confidence, refer you to its pages for much interesting information relating to this county. I presume it is our object to ascertain with as much accuracy as can be the local history of our country, and I venture to think that in York and its neighbourhood you have a rich mine to draw upon, not only from an architectural point of view, but also from a literary one. There is much yet to be learnt by diligent work in deciphering dusty old deeds, and although a very great deal has been done of recent years, especially by the Historical MSS. Commission, one cannot help feeling that volume upon volume might be added to our present information, if the owners of these ancient documents would only make the fact of their existence known to those who are able and willing to decipher them. I hope I may not be considered as departing from the straight line of an archaeological address, if I also mention the necessity of preserving, wherever possible, the materials for family history, especially the wills, heralds' visitations, and parish registers of which, in very many cases, only one copy exists, and that liable to destruction at any time by fire or otherwise. In Yorkshire, we have been fairly fortunate in preserving some of these records. The erection of the excellent Probate Registry in this city has materially increased the safety of the documents now deposited there. And several volumes of indexes thereto have been printed by

the Yorkshire Archaeological Society in their Record Series, which are of the greatest value to genealogical students. The whole of the Heralds' Visitations of the county are printed, and we have formed a Society, which is making good progress with Parish Registers. I believe the collection of raw material of this kind is the surest foundation for preparation of a history of the county, though perhaps we may never live to see its completion; but, depend upon it, everyone who will do his little now will be thanked some day by those who will eventually benefit by his spade work.

You are probably aware that at the present time there is a large photographic survey taking place, under the direction of the National Photographic Record Society, to which we are all invited to send photographs of any antiquarian subjects, whether parts or whole of ancient buildings. It is a very easy matter to do so, and a very small expense, but when these photographs are properly arranged and catalogued as they now are by this Society, and then deposited in the Print Room of the British Museum, they become most important evidence of the features of the country at the time they were taken. It is obvious what an advantage it would be to secure a faithful picture of an old building before the restoring architect or local builder commenced operations. I will just mention one example where this is most apparent. It frequently occurs that it is absolutely necessary in the construction of public works that old structures must be destroyed, or at any rate, altered to meet the new circumstances. I am sure that in a city like this, which has good reasons to be proud of its ancient buildings and history, that there is a desire to preserve every link that is possible with the past, and that due regard will always be given to retaining, as far as possible, the ancient work without preventing the proper development of the more modern. When men of common-sense come together to discuss these matters, there is always a method to be found of carrying them out, if there is a will. I hope I have not detained you too long. I feel that the study of archaeology in its many branches, is one of the greatest interests that a busy man can take up. Every one, to my mind, should have some hobby, and that hobby should be, as far as possible, apart from the routine of his daily life. In conclusion, let me again express our thanks to the Lord Mayor and citizens of York, and also repeat the welcome of this county to the Members of the Institute, and let me assure them that we shall all look forward with the greatest interest to the information they are prepared to give. I venture to think that when the proceedings of the meeting of 1903 are recorded, they will hold no unworthy place by the side of those of 1846.

Sir HENRY H. HOWORTH said it was his duty as the official mouth-piece of the Institute to return thanks to Sir George Armytage and the Lord Mayor for the addresses they had given them. Their visit to that city of beauty and interest had commenced under circumstances that were extremely favourable. The city contained the very finest Gothic building in the West of Europe, and that meant anywhere. They had associations that took them back long before the time of history, and he supposed there was no town in England that could claim to a continuation of municipal life from the time of the Romans. He was sure they were all proud to have a Yorkshireman in the Chair,

and they would all be delighted to welcome another Yorkshire friend in the person of Sir Edward Green. Their President had written several books, and had been able to combine the virtues of a country gentleman with the skill, perseverance, and energy attaching to the head of a great industrial undertaking like the Lancashire and Yorkshire Railway Company.

Mr. E. W. BRABROOK, C.B., seconded the motion, and said he wondered how it was that the Institute had allowed fifty-seven years to pass without paying a second visit to York. The only reason he thought was that they were so contented with the results produced that they rested on their renown. Nothing could be more gratifying than the reception they had met with, and nothing more interesting than the address they had heard.

The Lord Mayor and Sir George Armytage having replied, the party adjourned for luncheon.

After luncheon the party reassembled in the Minster, when Mr. J. T. MICKLETHWAITE first explained the architectural history of the church, and then conducted the visitors round the building and into the crypt, where some remains of what is believed to be the original seventh century church were pointed out. While the party was assembled in the nave the following communication from Mr. N. H. J. WESTLAKE, F.S.A., was read, on a panel of stained glass in one of the north clerestory windows which had formed part of a twelfth century Jesse Tree :

"This panel of painted glass is probably the most interesting fragment in the country, for many reasons which I shall hereafter specify. It is a pity that it has been placed in the clerestory, it is there almost out of sight and difficult to examine; moreover, it never was in any way related to its present position. In about the year 1880 I had a scaffold erected to the clerestory and a careful tracing made, a reduction of which is given in the first volume of my book on glass, p. 42. I was then struck with the great excellence of the work considering its period, and if it is an English production, it is in itself an evidence of the good condition of art in this country.

There is little doubt but that the design for glass formed, at this date, part of the work of the *scriptorium*; the general international resemblance of detail, and the additional similarity of design in stone, wall painting, glass, and manuscript are evidences of this origin of all the work. I have gone considerably into this question in my new volume on wall painting, which I hope will be ready soon after Christmas. There are also leaded in various panels of glass in the Minster certain fragments of borders of the same origin as this figure; all these details have a great resemblance to French and German work. The evidences of resemblance are illustrated in Mr. Brown's work and in my 'History of Painted Glass.' Although tracings or sketches of foreign work may have been used in the York *scriptorium*, the draughtsman has given them a certain touch of variety which may be national, as they resemble work in other arts in this country.

I do not wish to recapitulate what has already been written on this glass, but if possible to give you a few new suggestions.

The glass belonged, almost without doubt, to the church built by Thomas of Bayeux, consecrated archbishop in 1070, and who is said to have finished his church about 1100.

The quire was, however, pulled down and enlarged by Archbishop Roger, 1154-1181, and the nave rebuilt between the years 1291 and 1345. It may therefore have been removed from the old nave to the present one about that time.

The old Jesse at Chartres of similar design occupied the west window of the nave; that at S. Denis, if I remember rightly, in one of the chapels of the quire. It is thus possible that the glass may have formed part of the quire decoration of Archbishop Roger; but on this point there is no other evidence.

The Jesse at S. Denis belongs to the church dedicated by the Abbot Suger in 1142, and the striking resemblance between the works at York, Chartres, and S. Denis, allow us to date the work as of about 1150.

Here I may introduce the most important speculation that I have to put before you.

All students of history know the powerful influence that the religious orders then existing, especially the Benedictine, had upon the arts, and they moreover know that Abbot Suger was a man of learning, talent and invention, and it is to his invention and learning that I am about to ascribe the Jesse Tree.

As far as my researches have led me in this matter that in S. Denis is the earliest example in any art.

The S. Denis, Chartres, and York windows are then the three earliest examples of this design which ultimately became so common and so full of beautiful variations of design in the middle ages.

The earliest *painted* Jesse is, I think, the magnificent ceiling of S. Michael's, Hildesheim.

As an example therefore of the finest work of its period, of its probable nationality in production, and of the earliest design in the Jesse Tree, this York panel occupies a very important position in art, and it might with advantage be placed in a more accessible position and be covered with plate glass both within and without.

One word, however, on this real example of Norman glass concerning its facture and painting. When it is placed within reach of study, it will be seen that the fabric has not those very eccentric characteristics which certain fabrics of modern 'Norman' glass possess. It has character, but that character does not require exaggeration and become a caricature of the fabric, such as is affected in some modern art, especially in America.

It will also be seen that it is painted in a reasonable and artistic way. This is a day of recipe, and we are told that all good glass is painted in this manner or in that; now the old painters had one recipe and that was to make the best reasonable use of their material. If one piece of glass required obscuring or backing to bring it into tone with its neighbours it received that backing; if it were best left clear it was so left.

The 'Five Sisters' in the north transept, glazed in what is now technically termed 'grisaille,' are the next in order of date. They differ both in detail and in design from the more southern work such as we find at Lincoln, Salisbury, at Chartham in Kent, and in other localities. They are later than the Lincoln and Salisbury work and earlier than that at Chartham; they are probably of the last quarter of the thirteenth century.

They are also probably the produce of a northern school; the design is so especially adapted to the windows and to the situation in the Minster that it seems very likely indeed to have been the work of a designer who had studied the situation for which the work was intended.

A student of historical ornament can find in York Minster sufficient examples in the glass alone to give him a fair education. The gradual degradation in form of the already degraded classic ornament, then the reaction towards naturalism in the fourteenth century, and the ultimate result of the course of 'Gothic' design in the fifteenth century are all in this building well exemplified."

The various treasures preserved in the vestry were explained by the Very Rev. the DEAN OF YORK, DR. PUREY-CUST, F.S.A.

A visit was next paid, on the invitation of Sir Edward Green, to the Treasurer's House, an interesting Elizabethan mansion near the east end of the Minster, where Mr. Frank Green has accumulated a large number of pictures and examples of old furniture.

A visit was also made to the ancient College of S. William, the buildings of which, of the fifteenth century, with seventeenth century alterations, have been lately bought as a church house for the laymen of the Convocation of York.

At the evening meeting, in the museum of the Yorkshire Philosophical Society, Mr. T. M. FALLOW, M.A., F.S.A., read a paper on Yorkshire Goldsmiths and their work, with special reference to the local marking of plate at York, Hull, and Leeds. Mr. Fallow's paper, which was illustrated by an interesting series of pieces of plate, will be printed in an early number of the *Journal*.

Wednesday, 22nd July.

The party proceeded by rail by the 9.35 a.m. train to Howden, where the magnificent church was first inspected. The noble quire is now in ruins, owing to its having formed the church of a college of secular canons suppressed at the Reformation. The nave and transepts and the grand central tower had escaped a similar fate through their having formed the parish church of Howden. The architectural history was lucidly explained by Mr. JOHN BILSON, F.S.A., who pointed out that the now ruined quire had replaced an earlier one of the same date as the transepts, but without aisles, built soon after the middle of the thirteenth century. The reconstruction of the church had afterwards been continued westwards, and the existing nave and aisles were fully developed work of the last quarter of the thirteenth century. The completion of the church westwards was followed by the building of a new quire with aisles, the existing ruins of which showed that its eastern gable must have been a composition of exceptional beauty. The only later additions were the lovely little octagonal chapter house, now reduced to a sad wreck, on the south side of the quire, and the lantern of the central tower, the work of Bishop Skirlaw, the central stage being the work of Bishop Skirlaw or his immediate successors, and the upper stage an addition of the end of the fifteenth century. In dealing with the architecture of the church Mr. BILSON said he would like to call attention to a fact bearing on architectural develop-

ment, a point somewhat neglected. Up to the middle of the thirteenth century, the architecture of England ran parallel to the architecture of France, and he pointed out that there was a good deal of French influence in the earlier windows. Of the forms of tracery in use during the latter part of the thirteenth century the nave and its aisles furnish typical examples. They are not generally an improvement on the earlier forms, but they led up to the flowing form which began about 1315. In France that was not reached until a considerably later date. That form in the window tracery was a perfectly English development and led on to what was nick-named Perpendicular, which was also English. Mr. BILSON also called attention to the interesting series of monuments, including a cross-legged effigy of a lady on a tomb in the south transept. After a perambulation of the outside of the church, a brief visit was paid, also under Mr. BILSON'S guidance, to the adjoining remains of the manor house of the Bishop of Durham, which include the hall and porch of Bishop Skirlaw and a gateway built by Bishop Langley.

Within the walls of this house Bishop Hugh de Puiset (or Pudsey) died on 3rd March, 1194-5, and Bishop Walter of Kirkham in August, 1260. The latter was buried in the Chapter House of Durham, but his viscera, which were probably removed for the purpose of embalming the body, a process which has been carried out in the case of the late Pope of Rome, were buried under a grave cover of Frosterley marble in the south transept of Howden Church. The stone bears a raised cross and an inscription in Lombardic characters. Bishop Walter Skirlaw, who was a munificent benefactor of the church, and built the hall of the Manor House, died here on 24th March, 1405-6, and was buried at Durham.

After luncheon, carriages were in readiness to convey the party to Wressle Castle, an interesting late fourteenth century example of the transition from the purely military stronghold to a fortified house, in the form of ranges of chambers arranged around an open court, with towers at the angles. Only one side of the square now remains, but Mr. Bilson showed by the aid of a plan what had been the original arrangement, and by quotations from letters and other documents, what had been the fate of the building owing to its share on behalf of the King during the Great Rebellion.

From Wressle, the party returned by train to Selby, where Mr. J. T. MICKLETHWAITE called attention to the chief features of the abbey church, which is well-known for its noble fourteenth century quire, and a nave which seems to have been the result of repeated experiments on the part of its twelfth century builders. The monastic buildings have unfortunately been entirely destroyed.

At the evening meeting Mr. F. HAVERFIELD read a paper on "Roman Yorkshire," which, he said, included traces of a purely military occupation, as shown by the various forts of which remains exist, and the evidences of civil settlements at York, Aldbrough, and elsewhere. Mr. Haverfield said the subject of Roman Britain was not very popular, on account of its being difficult and distant. It was difficult because it involved the study of the whole Roman Empire, because during the last fifty years the study of that empire had expanded with amazing rapidity, and it was hard to keep up with the

development. It was also a distant subject. Do what they would, Roman remains never came home like mediaeval. We felt indistinctly that between us and the Romans there was a great gulf fixed, that we could not make a national hero of Caractacus, and unless the question was one of local topography, the consideration of Romano-British life seems a far off alien study. That state of things, he thought, would not last long, because the growth of Imperial sentiment in England would soon awaken an interest in other Empires. He went on to say that he should consider Roman Yorkshire rather as illustrative of the Empire than as a topographical area of roads, etc. For that purpose, Yorkshire was especially suited, since it combined civil and military life. The Romans grouped their armies only on frontiers and disordered districts and Yorkshire contained its share of unrest. But it also contained orderly civil life, and accordingly in Yorkshire civil and military administration somewhat overlapped. He then described the military system of garrisons, the legion at York, and the auxiliaries and detachments at other places, and the forts, which, in some instances, were enlarged blockhouses or compounds with garrisons of from 500 to 1,000 men. At York, the fortress plainly occupied the Cathedral bank of the Ouse, and the walls could still be largely traced. Two of its gates were fixed, and the only doubt was as to the position of the south wall, which ran somewhere near to Church-street. Except the walls, little remained. In civil life, the cantonments outside the camp, and on the other (station) side of the river became a town with municipal rights. The soldiers were the dominant element of the municipality, and York then was far inferior in civil life to York now. He also explained how it came to pass that the people spoke Latin and were Christian.

Thursday, 23rd July.

The party, which numbered about a hundred, first went by train at 8.45 a.m. from York to Redmire, and then in carriages by a short but hilly journey to Bolton. Here the castle was described by Mr. W. H. St. JOHN HOPE, who pointed out that the building had been erected by Sir Richard le Scrop, probably in rivalry of the new works with which Ralph Nevill, the Lord of Middleham, had lately surrounded his Norman keep. Bolton had, however, been built upon a new site, and in the newest fashion, in the form of four ranges of chambers disposed round an open court with towers at the angles. Sir Richard le Scrop obtained licence to crenellate his house at Bolton in 1379, but Mr. Hope showed that he had already in the previous year entered into a contract with John Lewyn, mason, for the erection of certain works at Bolton, which, however, only appeared to extend to two sides of the existing building. The original contract is now in the possession of Lord Bolton, the owner of the castle, and is in French, but Mr. Hope submitted the following translation of the operative part of it:

"In the first place a tower for a kitchen, which shall be vaulted and embattled, and shall be of a height of 50 ft. below the battlement, and shall be in length of 10 ells and in breadth 8 ells, and the outside walls of the said tower shall be of a thickness of 2 ells. Also there shall be made between the said tower for the kitchen and the gate a house vaulted and embattled, and above the vault shall be three

chambers one above the other, and each chamber shall be of the length of 12 ells and in breadth $5\frac{1}{2}$ ells, and the said house shall be of a height of 40 ft. below the battlement, and the thickness of the walls outside 2 ells and within 4 ft. Also there shall be an embattled tower which shall be of a height of 50 ft. under the battlements, in which tower there shall be a gate vaulted, and above the gate shall be three chambers, one above the other, and they shall be in length $10\frac{1}{2}$ ells and in width $5\frac{1}{2}$ ells. And in the same tower on the side of the gate towards the south shall be a vaulted chamber, and over that chamber shall be three chambers, one above the other, which shall be in length 13 ells, and in breadth 7 ells, and the walls outside of the said chambers shall be of a thickness of 6 ft., and within of 4 ft. Also there shall be a chamber adjoining the said tower on the side towards the west, which shall be vaulted and embattled, and of a height of 40 ft. under the battlement, and over the said vaulted chamber another house, vaulted, and above that a chamber which shall be in length 10 ells with the entry, and $5\frac{1}{2}$ ells in width, and the walls without the said chambers shall be of the thickness of 2 ells, and the walls within of 4 ft. Also all the houses and chambers aforesaid shall have entries, chimnies, doors, windows, and privies, and all necessities which are required for the said work. Also there shall be three staircases, one within the kitchen and two for the tower of the gate. Also all the walls within the aforesaid chambers which shall be parclose shall be of a thickness of 3 ft. or 4 ft., according as they require."

For the aforesaid works John Lewyn was to win his own stone, and to be paid 100s. for each perch, "measured by 20 ft. by the ell, as well for vaults as for walls" and to receive besides fifty marks. Sir Richard undertook to find wood for the lime-kilns, the carriage of all stones, sand, and lime, and the timber for the centres and scaffolds. According to Leland, the castle was eighteen years in building, and cost every year 1,000 marks.

Mr. Hope also pointed out the arrangement of the buildings, and drew special attention to the singular way in which the portcullises that defended each doorway were merely drawn up above them, and not into a groove out of sight. He also indicated in the hall the singular contrivance noticed by Leland, whereby the smoke from the central fire escaped through holes in the heads of the windows instead of through the more usual louvre surmounting the roof. The castle, though for the most part in ruins, is well cared for, and from the top of one wing, which retains its floors and roof, the visitors were gratified by a magnificent view of Wensleydale.

From the castle a drive through Lord Bolton's park brought the party to Leyburn, whence, after luncheon, the journey was resumed to Middleham. Here Mr. Hope again acted as guide, and explained how the first Norman castle was now a small derelict moated mount on the rising ground to the north. The present castle consists of a quadrangle of ranges of chambers, with corner towers, erected by Ralph, Lord Nevill of Raby, about the middle of the fourteenth century, enclosing a great rectangular keep or tower of two stories, the work probably of Robert Fitz-Ranulf, towards the close of the twelfth century. Were the tower absent, Mr. Hope pointed out, the plan would resemble that of the castles of Wressle and Bolton. Between

the keep and the line of the eastern curtain, are the ruins of the chapel, which, though of the fourteenth century, is a curious example of imitation of the same style of architecture as the keep. The ranges of buildings forming the enceinte appear to have been erected within the lines of the surrounding ditch. From a survey of the castle made for King Henry VIII. in 1538, Mr. Hope was able to point out the uses of the various buildings. In comparison with Bolton, the present condition of Middleham Castle is most unsatisfactory, the mischievous ivy being allowed to grow unchecked, and only last February a large mass of masonry fell from one of the outer towers. An earnest hope was expressed that the owner, Lord Masham, would do something to prevent further loss, and take some effectual steps to support the overhanging turrets of the great Norman keep.

At the evening meeting a paper was read by Professor E. C. CLARK, of Cambridge, on "College Caps and Doctors' Hats."

This will be printed in an early number of the *Journal*.

Friday, 24th July.

This day was devoted to a joint meeting in York with the members of the Yorkshire Archaeological Society. The morning was spent in visiting in succession the churches of All Saints', North-street, St. John Ousegate, St. Michael Spurriergate, St. Denis Walmgate, Holy Trinity Goodramgate, and St. Martin, Coney-street, with the object of examining the notable remains of old painted glass still existing in them. Mr. N. H. J. WESTLAKE acted as guide, and pointed out the chief characteristics of the glass, especially as regards the examples of the Jesse Tree, which he believed to have been first invented by the famous Abbot Suger, of St. Denys, in France.

After luncheon the party reassembled at Clifford's Tower, where Mr. HOPE, on being called upon, briefly referred to its history, and pointed out the reasons for believing that the mount which it stood formed part of the castle erected by William the Conqueror in 1068 to overawe and dominate the city. The Bayle Hill, on the opposite side of the river, was, he believed, the second castle thrown up by William later in the same year, when the citizens again revolted, to keep in order those on the south bank of the Ouse, and with the other castle to control the passage of the river. According to Orderic this Bayle Hill was thrown up in eight days. Mr. Hope also referred to a project for effectually defacing the grand earthworks that encircle the city by laying them out with walks, garden seats, and planting them with shrubs and flowers. Such defacement, he considered, would be nothing less than a crime.

Mr. J. T. MICKLETHWAITE next described the extensive salvage works that have lately been carried out to arrest the fall of the tower. He attributed the existing walls to the time of Henry II., and said that originally there were no doubt buildings inside, chiefly of timber. The rest of the castle had been converted into a prison. The prison part had at different times been rebuilt, but the tower itself had always been preserved as a relic. Seventy or eighty years ago some ingenious people cut away part of the mount to make a road, and, as a result, the weight of the building was too much for the earth, and it

bade fair to go down into the yard below. He was asked to come down and consult with the late Colonel Beamish, official surveyor of such buildings, and there was no doubt that the mischief was not in the walls but in the earthwork. They agreed to report that it was a matter to be dealt with by an engineer who was accustomed to deal with earth pressure, and the work was under the direction of Mr. Basil Mott, of Westminster. The whole of the moving part had been buttressed up, and Mr. Micklethwaite believed that it was now safe from further movement. He would not say that the whole castle was, because the cutting away of the toe of the mount extended to the other side. There had up to now been no sign of movement there, and they hoped this state of things would continue. In the course of the work some curious things were found, including the stones on which he was standing, most of them thirteenth-century work. At present, except that some few seemed to belong to the chapel, they could not say really what they were. Below the ground had been found part of a series of posts with rails joining them, and this was believed to be the palisade of William's castle which Mr. Hope had told them about, and he believed it was all there below their feet. When these stone walls were built the mount was apparently heightened, and the paling was no doubt left to stiffen the new earthwork. He thought a little investigation to help them to plan it out would be well worth doing. As the Yorkshire Archaeological Society had from time to time undertaken to investigate such work, they might put their hands in their pockets and spend a little on this. It would be most interesting to find the actual wooden fortification of the eleventh century.

Mr. MUNBY, the official custodian of the property for the Yorkshire County Council, in whom it is now vested, also added some remarks on the works lately completed.

A move was next made to the Merchants' Hall, in Forsgate, which was inspected under the guidance of Mr. H. PLATNAUER.

The day's proceedings ended with a visit, by invitation, to the pleasant grounds of the Yorkshire Philosophical Society, containing the remains of St. Mary's Abbey and of St. Leonard's Hospital, and the multangular tower and other portions of the Roman defences of York. For some time past an acrimonious local controversy has been carried on in the newspapers and elsewhere as to the treatment of certain recently-excavated portions of St. Mary's Abbey. Additional interest, therefore, attached to this visit, inasmuch as it had been decided to await the expert opinion of members of the Institute before coming to any conclusion in the matter.

The party having assembled at the scene of the excavations on the site of the destroyed quire, Mr. HOPE briefly narrated the story of the foundation, and suggested that the recently-exposed apses were portions of the church begun by William Rufus in 1088. In plan they were at present quite unique in this country, and it behoved them to take every care of them. When they were first exposed he happened to come over and see them, and was asked what had better be done to preserve them. There were one or two courses open. The first was to bury them again, but the Society did not want to do that after spending money in uncovering them. Then there was a second course, which

had been adopted, and for this reason. These gardens formed a playground for the children of the subscribers, and it was obvious that if such rough foundations, which were in a very tender condition, like all newly excavated work, were left unprotected, the children would run over them and reduce them to a more or less shapeless mass. Obviously the first thing to do was to make secure in its place every one of the original stones, which he advised should be done with *lias* lime mortar, put in with a stick and not with a trowel. Cement, owing to its expansive property when used in small quantities, ought not to be employed. Seeing that the remains were standing up to various heights, he suggested that they should be brought to a common level with brickwork, the advantage of this being that there was no confounding it with eleventh-century rubble. Having done that, they had to guard against rain and frost, and the best way was to cover the top with Yorkshire flags. As a result, all this work had been anchored down for posterity. Mr. Hope went on to suggest that the areas which were originally within the church should not be turfed, but would have been better covered with gravel.

Mr. MICKLETHWAITE, who followed, agreed with Mr. Hope as to the method of preservation adopted, and said incidentally that the fiend the archaeologist had now to fight was the landscape gardener who worked for an ignorant public.

Mr. J. BILSON urged the carrying out of excavations on the opposite side, so as to clear up the history of the eastern part of the building. There was no other plan exactly like this in the country, the analogies being in France. No architect could have put the points more clearly than Mr. Hope. By covering up the plan they would be depriving their descendants of the opportunity of studying them. He himself had done precisely the same thing at Howden with regard to flag covers, and they could not see the top of the walls, and water could not get in, and no one objected. Last year he had the privilege of taking over the excavations at York M. le Comte de Lasteyrie, Professor of Archaeology at the *École des Chartes*, Paris, and a member of the *Commission des Monuments Historiques*. There was not a man in France whose opinion would carry more weight, and he expressed cordial approval of what had been done, and expressed a wish that all the foundations might be treated in the same manner.

M. CAMILLE ENLART, formerly Librarian of the *École des Beaux-Arts*, now Director of the Museum of Comparative Sculpture at the *Trocadero*, Paris, and also a member of the *Commission des Monuments Historiques*, addressed the meeting in French, and likewise expressed his approval of what had been done.

The President, Sir HENRY HOWORTH, accordingly proposed the following resolution: "That the members of the Royal Archaeological Institute, at this their meeting in York, desire to emphasize the importance of preserving the early remains of the Abbey Church of St. Mary, and are of opinion that the method which has been adopted for their preservation is the most satisfactory and excellent one available."

Mr. E. W. BRABROOK (Vice-President) seconded the resolution, and, after some remarks by Mr. W. W. Hargrove on the part of the local objectors, it was put to the vote and carried unanimously.

The visitors were afterwards entertained at tea by the Yorkshire Philosophical Society.

In the evening the Lord Mayor of York and the Lady Mayoress held a reception of the members of the Institute at the Mansion House, where the civic insignia and a number of interesting muniments and charters had been arranged by the Deputy Town Clerk, Mr. W. Giles. At the request of the Lord Mayor Mr. Hope briefly described the insignia and plate.

Saturday, 25th July.

The members left by rail for Doncaster by the 8.44 a.m. train, and thence journeyed by rail to Conisburgh.

Here the castle was described by Mr. HOPE, who showed that historically it was no doubt the work of William de Warenne in the eleventh century, and had at first consisted of a great moated mount with a small appendent bailey on the west, both originally defended by palisades. On the substitution of masonry for the wooden defences, probably early in the twelfth century, the outer bailey had been slighted, and the new defences confined to the margin of the great mount. Subsequently the splendid circular tower or keep, one of the finest pieces of twelfth century masonry in existence, had been added towards one edge of the fortified area; not improbably, from its likeness to the great tower of Orford Castle in Suffolk, which was in building from 1170 to 1175, and onwards, about 1170, by Hammeline, Earl of Surrey, the husband of the heiress of the Warennes.

After a thorough examination of the tower, the party drove on to Roche Abbey.

Here, after luncheon, the remains of the abbey church, and the foundations of the monastic buildings which have been laid bare by the Earl of Scarborough, were explained by Mr. HAROLD BRAKSPEAR, F.S.A., who called attention to the extreme beauty and simplicity of the architecture, and pointed out the order in which the several buildings had been erected.

M. CAMILLE ENLART spoke of the universal character of Cistercian abbeys wherever they were found, in Germany, Italy, France, or Great Britain, and said he had been specially struck by the resemblance of the photographs of that abbey to certain Cistercian abbeys in the Alps. He referred to the mode of life and the habits of the Cistercians, who generally built in a valley near a stream, and engaged in agriculture and worked their mill by the stream. They provided an infirmary for old or sick monks, which was always an important part of a Cistercian abbey, but was always apart from it.

Tickhill Castle was the next place visited. It was, however, difficult to see anything of it except the gatehouse, on account of the masses of ivy that hid the walls and the number of trees that concealed the mount. Mr. HOPE, in describing the castle, pointed out that it consisted of one large court, roughly oval in form, with a lofty mount near one end. The remarkable early gatehouse was the work either of Roger de Buisli, the builder of the castle, before 1098, or of Robert of Bellesme before 1102. The curtain wall, which was certainly later, was mentioned in the Pipe Roll for 1130-1, and the ten-sided tower

that crowned the mount was built in 1178-80. The chapel, hall, and other buildings have for the most part disappeared. The castle is encircled by a ditch, which is a rare example of a moat more or less filled with water.

A brief visit was also made to the fine parish church, which was described by Mr. JOHN BILSON. The party subsequently returned to York.

Monday, 27th July.

This day was devoted entirely to a visit to the little known, but extensive remains of the Charterhouse of Mount Grace. The party first went by train at 10 a.m. to Northallerton, where carriages were in readiness for the rest of the journey. On arrival at Mount Grace, the visitors were met by the owner, Sir Lowthian Bell, Bart., and as there was plenty of time, the interval before luncheon was occupied in listening to an address from Mr. MICKLETHWAITE on the characteristics of the Carthusian order, and the manner of the daily life passed by the monks, the peculiarity of its being that they lived most of it alone in their cells. After luncheon, the remains of the buildings were inspected, under the guidance of Mr. W. H. ST. JOHN HOPE, who pointed out the division of the monastery into a large outer court containing the church, chapter house, frater, kitchen, guest houses, stables, etc. and an inner court, also of considerable area, forming the cloister, and having round it the cells and gardens of the monks. A further set of cells and gardens which had subsequently been added, had, from want of other room, been arranged round a smaller cloister about the church in the outer court. Mr. HOPE also described the subdivision of the cells by partitions into an entrance lobby, a bedroom, a study, and a keeping-room, this last being furnished with a fireplace. A narrow stair at one end of the lobby led to an upper room, where the inmate could employ his spare time at such indoor work as was lawful, such as writing books, bookbinding, weaving, etc. The gardens might be cultivated or not, as the monks preferred. Considerable remains exist of the cells and other buildings, and the church is, with the exception of the quire, still fairly complete, even to the little pinnacles of its central steeple. One of the cells on the north of the cloister is being carefully reconstructed by Sir Lowthian Bell on the original lines.

The journey back to Northallerton was the first during the meeting upon which rain fell, but it ceased before reaching the station.

In the evening the Annual Business Meeting was held, the President, Sir HENRY H. HOWORTH, in the chair.

After the Minutes of last year's meeting had been read and confirmed, the Balance Sheet was presented and adopted. The Report of the Council for the year 1902-3 was then read, as follows:

REPORT OF THE COUNCIL FOR THE YEAR 1902-1903.

The Council has the honour of presenting its Report, the sixty-first since the inception of the Institute, showing the condition of finance and affairs in progress during the year past.

The printed Cash Account, prepared by the Chartered Accountant,

and now in the hands of the Meeting, is a summary of the ordinary income and expenditure; it specifies also the investment of cash on capital account in £1,200 Metropolitan two and-a-half per cent. stock, in the names of the President and two others. The balance of cash at the bankers on current account is £172 19s. 1d.

There are no outstanding debts; all liabilities to the end of the past year are discharged, and the subscriptions for the same period are paid up.

The Council again mentions, for the information of new members, that the library of the Society of Antiquaries at Burlington House is available for all members of the Institute.

The number of new subscribing members elected during the year 1902 was sixteen, while the loss by resignation and death was fourteen; one of the latter was a life member.

The six members of the Council retiring by rotation, according to the rules, are Messieurs W. H. St. John Hope, Rev. E. S. Dewick, W. Hale-Hilton, Herbert Jones, H. Richards, and Professor E. C. Clark, and it is recommended that the following members be elected and added to the Council, namely, Rev. E. S. Dewick, E. C. Clark, Herbert Jones, J. Challenor C. Smith, H. Longden, and Arthur H. Lyell; that Sir Henry Howorth do continue to hold the office of President, and that Messrs. H. Horncastle and L. L. Duncan, F.S.A., be appointed as Honorary Auditors in the place of Mr. J. Challenor C. Smith. Also that Mr. W. H. St. John Hope be elected as Vice-President in the place of Mr. Keyser, who retires by rotation.

It is hoped that members will find among their friends some who will enrol themselves as new members, and so increase their useful influence of the Institute.

The *Archaeological Journal* Volume for 1902 contains some important papers, which have been worthily illustrated; the Council is desirous of continually improving that publication.

The Council has to announce, with much regret, that Mr. E. Green has resigned the office of Honorary Director; the Council has to acknowledge, with gratitude, the important service he has rendered during the past ten years.

With equal regret, the Council announces the resignation of Mr. A. H. Lyell as Honorary Secretary after nine years of unwearied attention; he is about to reside at a long distance from London, and will be unable to continue his valued services, which necessitate a regular official attendance; he will, however, accept a place on the Council.

On the resignation of Mr. Green as Honorary Director the Council, in recognition of Mr. Mill Stephenson's many and long services, offered him that position, and it would have gratified the Institute if he had found himself able to accept it, but his continued absence from London made him hesitate and eventually decline the honour.

The Council again wishes to remind the members of a fact not always remembered, viz., that the services so long devotedly given by its officers are gratuitous.

The Council has appointed an Executive Committee to undertake the duties hitherto performed by the Honorary Director.

The Royal Archaeological Institute of Great Britain and Ireland.

CASH ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 1902.

Dr.

Cr.

INCOME.		£	s.	d.	£	s.	d.
To Cash balance as per last Account	202	8	7	
" Subscriptions—	278	5	0	
265 Annual Subscriptions at £1 1s.	1	1	0	
2 " " at 10s. 6d.	279	6	0	
267 Together received during year	
5 Subscriptions paid in advance in the year 1901	
5 " " in arrears at 31st December, 1902	
277 Total annual subscriptions at 31st December, 1902.	
Arrears as under paid in 1902—	4	4	0	
For the year 1901, 4 at £1 1s.	283	10	0	
5 Subscriptions at £1 1s.	5	5	0	
" Subscriptions paid in advance for the year 1903—	
Life Composition	288	15	0	
" 12 Entrance Fees	15	15	0	
" Sale of Publications	12	12	0	
" Profit on Southampton Meeting	41	19	2	
" Donation	15	4	3	
" The Right Hon. Viscount Dillon, M.A., P.S.A.,	2	2	0	
" Donation for Illustrations	1	0	0	
" Professor Bunnell Lewis, M.A., F.S.A., Illustrations	1	5	0	
" Sale of Surplus Library	530	5	0	
" Sundries	7	7	0	
" Interest on Deposit at Bankers	1	4	6	
" Dividends on Investment	21	2	0	
" Sundries	
" Amount withdrawn from Deposit at Bankers	22	6	6	
	1	4	2	
	400	0	0	
	£1,542	3	8	
EXPENDITURE.							
By Publishing Account—	
Illustrations and Engraving for Journal.	47	7	9	
Harrison and Sons, Printing, Postage and Delivery of Journal (including Vol. LIX, Part 286 for Dec., 1902) and notices	220	15	8	
" House Account—	268	3	5	
Rent of Offices	40	0	0	
Lighting and Dring	5	0	0	
Sundries	4	4	0	
" Investment Account—	
£1,200 in Metropolitan Stock, 3½ per cent.	1,039	17	0	
" Petty Cash—	
Postage	1	15	7	
Stationery	0	3	10	
Insurance	0	3	0	
Congress of Archaeological Societies	1	0	0	
Sundries	8	17	9	
" Cash Balance—	
At Bankers	172	1	11	
In hand	0	17	2	
	172	19	1	
	£1,542	3	8	

We hereby certify that we have prepared the above Cash Account for the year ended 31st December, 1902, and that the same agrees with the Cash and Bankers' Pass Books of the Institute. Further, we have examined the payments made during the period with the Vouchers produced, and find the same in order.

Examined and found correct,

J. CHALLENGOR C. SMITH, F.S.A., Hon. Auditor.

H. MILLS BRANFORD & Co.,
Chartered Accountants.
3, Broad Street Buildings,
London, 28th May, 1903.

The Institute is represented at the Annual Meetings of the Congress of Archaeological Societies by members of the Council, when subjects are discussed bearing principally on British Archaeology, and resolutions, where possible, carried into effect.

The index to the first fifty volumes of the *Archaeological Journal* is not yet completed; the work is in hand, but time is needed for its completion.

Your Council has unanimously nominated Mr. William Hale-Hilton as Honorary Secretary in succession to Mr. Lyell, and is pleased to announce that he will accept the position.

The Council wishes to give expression to its appreciation of the way in which the Honorary Editor has performed his duties, and deeply regrets that pressure of other work has compelled him to resign his honorary office.

The re-election of Sir Henry H. Howorth as President was then proposed and seconded, and carried by acclamation: the Report of the Council was also adopted.

The names of sundry candidates for election into the Institute were then handed in, for the decision of the Council.

A discussion arose on the place of next year's meeting, Bath, Bristol, Worcester, and Normandy being mentioned; the two first named received most support, but the decision was, as usual, left to the Council.

The proceedings then terminated, and the business of the concluding meeting was entered on.

Votes of thanks were given to the President of the Meeting, Sir George Armytage, proposed by Sir HENRY HOWORTH, seconded by Mr. WALTER ROWLEY; to the Lord Mayor of York and the Lady Mayoress, proposed by Mr. MICKLETHWAITE, seconded by the Rev. E. H. GODDARD; to the Local Committee and Local Secretaries, proposed by Mr. H. LONGDEN, seconded by Mr. RANDALL DAVIES; to the owners of places visited, proposed by Mr. E. W. BRABROOK, seconded by Mr. W. H. ST. JOHN HOPE; to the guides and readers of papers, proposed by Mr. WILSON, seconded by Mr. LE GROS; to the secretaries of the meeting, proposed by Sir HENRY HOWORTH, seconded by Mr. BRABROOK, and finally to the President of the Institute, proposed by Sir GEORGE ARMYTAGE. In his reply Sir HENRY HOWORTH referred to the presence during the meeting of three eminent French archaeologists, MM. Camille Enlart, Lionel de Crèveœur, and Fery-Raynaud, and of the satisfaction it had given the members that so much interest had been taken in their proceedings by their French brethren.

The proceedings then terminated.

Tuesday, 28th July.

At 9.0 a.m. the party went by special train to Gilling. On arrival a move was first made to the parish church of the Holy Cross, which was described by Mr. JOHN BILSON, F.S.A.

The building consists of nave and aisles with nave arcades of the

second half of the twelfth century, chancel of the first half of the fourteenth century, and an early sixteenth century west tower. On the north side of the chancel lies the half-effigy of an unidentified knight (perhaps a Malbis) with these arms, *a bend and a bordure engrailed with three birds (? martlets) on the bend, and crest, a hind's head coupé*. On the chancel floor is a small brass inscription to a rector, Robert Wellyngton, 1503. In the south aisle is the tomb of Sir Nicholas Fairfax, who died 1571, and his two wives, Jane Palmes and Alice Harrington. In the wall of the south aisle is a monumental recess, with a shield bearing the arms of Etton, no doubt commemorating one of the Thomas de Ettons, who were living at Gilling in the fourteenth century, possibly the father of the one of that name to whom the fourteenth century work in Gilling Castle is due.

Gilling Castle, the seat of George Wilson, Esq., by whose kind permission the members of the Institute were enabled to inspect it, was next visited, also under the guidance of Mr. BILSON. Of the house erected in the latter half of the fourteenth century (an example of a tower-house on an unusually large scale), the basement still remains, and consists of three rooms on each side of a central passage, all with pointed segmental barrel vaults. At the east end of the passage is a blocked doorway, in the arch of which are shields bearing the arms of Etton, the then owners of Gilling. From the Ettons the property passed into the hands of the Fairfaxes of Walton, the senior line of that family, one of whom, Sir William (son of Sir Nicholas, whose tomb is in the church), made considerable alterations in the Castle. To him is due the beautiful dining-room, perhaps the finest Elizabethan room in the country. The magnificent glass with which the windows of this room are filled, partly the work of Bernard Dininckhoff, is enriched with Fairfax heraldry; that in the bay window emblazons the arms and descents of the Fairfaxes; that in the south window those of the Stapletons. Sir William Fairfax married Jane, daughter and heiress of Brian Stapleton of Burton Joyce, Notts. In the last light of the south window is the signature of the artist and the date 1585. The glass in the remaining window is of rather later date, and contains the arms and descents of the Constables. Sir William's son, Sir Thomas, first Viscount Fairfax of Emley, married (1594) Katherine, daughter of Sir Henry Constable of Burton Constable. There are also some Constable panels (removed) in the bay window. In the frieze are painted the arms of the gentlemen of Yorkshire living at the close of the sixteenth century, arranged in wapentakes, the shields, 450 in all, being represented on trees with animals beneath. In this frieze are also six figures playing on musical instruments; three ladies play lutes, and three gentlemen viols. The ceiling is of ribbed plaster, with pendants. The last feature to be noticed is the fireplace with its wealth of heraldry. At the top are the arms of Queen Elizabeth, France and England quarterly, within the Garter and with supporters. In the middle are the arms of Fairfax (quartering Malbis, Etton, Carthorp, Ayrum and Follifoot), also with crest and supporters. In the lower panels are the arms of Sir William Fairfax's four sisters and their husbands, namely, from left to right, Bellasis of Newburgh, Curwen of Workington, Vavasour of Hazlewood, and Roos of Ingmanthorpe, each impaling Fairfax.

The west front was reconstructed and the wings were added about the beginning of the eighteenth century.

From Gillling the journey was resumed to Coxwold, where Mr. J. T. MICKLETHWAITE, F.S.A., described the architectural features of the parish church, which is chiefly notable for its octagonal tower.

Lastly a visit was paid to the much ruined and buried remains of Byland Abbey, under the direction of Mr. W. H. ST. JOHN HOPE, who pointed out the arrangements of the buildings and the chief points of interest.

At 4.55 p.m., a special train again being in readiness, the party returned to York, and thus brought to a conclusion a very successful meeting.

POSTSCRIPT.

In connection with the so-called Archbishop Scrope's Indulgence Cup, preserved in the vestry of York Minster, Mr. J. CHALLENGOR C. SMITH, F.S.A., has communicated the following note:

"A wood-cut representation of this mazer, together with a fac-simile of the legend which it bears, will be found in the volume which contains the Report of the Archaeological Institute meeting, held at York in 1846. The inscription runs thus: *Recharde arche beschope Scrope grantes on to all tho that drinkis of this cope xlth dayis to pardun. Robart Gybson, Beschope Musin grantes in same forme afore saide xlth dayis to pardun. Robart Strensall.*" The allusion to "beschope Musin" puzzled Mr. Robert Davies, who wrote the account of the cup for the Society's 1846 Report, but Mr. Scaife when editing the "Register of the Guild of Corpus Christi" for the Surtees Society in 1872, suggested that Bishop Musin was probably Richard Messing. Bishop of Dromore 1408-10. Mr. Scaife went on to say that "another bishop of the same name was admitted into the Guild in 1461-2, as 'Frater Ric. Mysyn suffragenus ordinis Fratrum Carmelitarum.'" This bishop, who occupied the same Irish see as his quasi-namesake, was Suffragan of York, and it is therefore far more likely that it was he, and not Bishop Messing, who gave the additional forty days' pardon.

The occurrence of the two other names, Robert Gybson (hitherto, though I think erroneously, read as "Gubson") and Robert Strensall, in the inscription has not yet been explained. On referring, however, to Dr. Collins' most valuable "Register of the Freemen of York" (Surtees Society, 96), it will be seen that one Robert Gibson, cordwainer, was admitted freeman 29 Hen. VI., and a Robert Strensall, cordwainer, 18 Hen. VI. It is extremely likely that these two were officers of the guild of cordwainers at the time when Bishop Musin gave the additional forty days' pardon, and when such gift was recorded upon the mazer, their names being introduced as a kind of attestation.

Primâ facie, one would expect to find the same two names among those of the above mentioned Guild of Corpus Christi, but again making use of Dr. Collins' list of freemen, it will be seen that the names of cordwainers are uniformly absent from the Guild Roll. The inference appears to me to be that the Corpus Christi Guild was primarily a cordwainers' fraternity, and that the list of members which was printed by the Surtees Society forms in point of fact merely a list of extraneous persons who affiliated themselves to the guild. This

theory would explain the fact that the mazer remained in the hands of the Cordwainers from and after the Dissolution. It is also somewhat to the point to mention that the Cordwainers' Guild of London specially observed Corpus Christi day, and it was enacted in early times that no cordwainer or cobbler within the city of London, or three miles of the same, shall presume to sell or put upon the legs or feet of any person, any shoes, boots, or buskins on Sundays or feasts of the Nativity and Ascension of Our Lord or Corpus Christi on the penalty of twenty shillings for each offence.

There was evidently a like example of a mazer "blessed by a bishop" being provided for a fraternity at the church of St. Mary Overy, Southwark. In 1520, one John Crofter made a bequest thus: "Item I bequethe unto the brothern and sistern of the same Fraternitie of Saincte Kateryn [at St. Mary Magd. Southwark] my grete maser withe a grete bose in the same of silver in the whiche my marke is gravon upon this condicion folowinge, that is to say that the governours or wardens of the same fraternite shall cause summe bieshop to graunte pardon of xl daies to every person whiche shall happen to drinke of the same." No doubt this bequest took effect, for in the Inventory of Church goods taken at Saviour's in 1552, we find "Item a maser with a bordour and knop of sylver and gilt which was geven to the church wardens to drink when they mete." Shortly after the date of the inventory, the then churchwardens sold several "parcelles of plate" for one of which, a "maser," they received three pounds "and the money therof cummynge was employd and bestowyd in necessary reparacyons in the churche."

4th November, 1903.

The Rev. E. S. DEWICK, M.A., F.S.A., *in the Chair*.

Mr. W. H. ST. JOHN HOPE read a paper on "The Making of Place House at Titchfield, near Southampton, in 1538," which will be printed in the *Journal*.

Mr. HOPE also contributed a note on a wall-painting in Claverley Church, Salop, which is printed on pp. 289-293.

Mr. P. M. JOHNSTON, Colonel BAYLIS, Messrs. R. GARRAWAY RICE, HERBERT JONES, MARTINEAU, and BLASHILL, the Rev. BEDFORD PIM, and the CHAIRMAN took part in the discussion.

2nd December, 1903.

Sir HENRY H. HOWORTH, K.C.I.E., D.C.L., F.R.S., F.S.A., *President, in the Chair*.

Miss NINA LAYARD read a paper on the Pax Instrument, and exhibited a number of photographs, etc. in illustration. Miss LAYARD's paper will be printed in the *Journal*.

The Rev. J. T. FOWLER, D.C.L., F.S.A., through Mr. HOPE, exhibited a small latten English Pax of early sixteenth century date.

Mr. ANDREW OLIVER exhibited several Paxes of various dates.

The Rev. E. S. DEWICK, Mr. HOPE, Mr. EELES, and the TREASURER took part in the discussion.

A List of the Annual Meetings of the Royal Archaeological Institute.

* Denotes that a special volume was also issued.

Date.	Place.	President of Meeting.	Reference to Journal.	President of Institute.
1844	Canterbury ..	Lord Conyngham	I. 267.. ..	Lord Conyngham.
Sept. 9 1845				
Sept. 9 1846	Winchester ..	Marquis of Northampton ..	II. 299* ..	Marquis of Northampton.
July 21 1847	York	Earl Fitzwilliam	III. 270* ..	" " "
July 29 1848	Norwich ..	Bishop of Norwich.. ..	IV. 265* ..	" " "
July 25 1849	Lincoln ..	Earl Brownlow	{ Special vol. only. }	Earl Brownlow.
July 24 1850	Salisbury ..	Rt. Hon. Sidney Herbert ..	VI. 297* ..	Marquis of Northampton.
June 18 1851	Oxford ..	Marquis of Northampton ..	VII. 307* ..	" " "
July 29 1852	Bristol ..	J. S. Harford	VIII. 322* ..	Lord Talbot de Malahide.
Aug. 24 1853	Newcastle ..	Lord Talbot de Malahide ..	IX. 361* ..	" " "
July 21 1854	Chichester ..	" " " "	X. 342* ..	" " "
July 4 1855	Cambridge ..	" " " "	XI. 389 ..	" " "
Aug. 6 1856	Shrewsbury ..	" " " "	XII. 380 ..	" " "
July 23 1857	Edinburgh ..	" " " "	XIII. 375 ..	" " "
July 21 1858	Chester ..	" " " "	XIV. 364 ..	" " "
July 20 1859	Bath	" " " "	XV. 363 ..	" " "
July 26 1860	Carlisle ..	" " " "	XVI. 364 ..	" " "
July 17 1861	Gloucester ..	" " " "	XVII. 320 ..	" " "
July 22 1862	Peterborough ..	" " " "	XVIII. 378 ..	" " "
July 22 1863	Worcester ..	Lord Lyttleton	XIX. 370 ..	" " "
July 28 1864	Rochester ..	Marquis Camden	XX. 379 ..	" " "
July 26 1865	Warwick ..	Lord Leigh	XXI. 366 ..	Marquis Camden.
Aug. 1 1866	Dorchester ..	Marquis Camden	XXII. 340 ..	" "
July 17 1866	London ..	" " " "	XXIII. 305 ..	" "

Date.	Place.	President of Meeting.	Reference to Journal.	President of Institute.
1867 July 20	Hull	Archbishop of York ..	XXIV. 354 ..	Lord Talbot de Malahide.
1868 July 28	Lancaster ..	Rt. Hon. Col. Wilson Patten	XXV. 319 ..	" " "
1869 July 20	Bury St. } Edmunds }	Marquis of Bristol ..	XXVI. 366 ..	" " "
1870 July 26	Leicester ..	Lord Talbot de Malahide ..	XXVII. 325 ..	" " "
1871 July 25	Cardiff ..	Marquis of Bute	XXVIII. 318 ..	" " "
1872 Aug. 1	Southampton	Lord Talbot de Malahide ..	XXIX. 368 ..	" " "
1873 July 29	Exeter ..	Earl of Devon	XXX. 412 ..	" " "
1874 July 21	Ripon ..	Marquis of Ripon	XXXI. 387 ..	" " "
1875 July 20	Canterbury ..	Lord Fitzwalter	XXXII. 486 ..	" " "
1876 Aug. 1	Colchester ..	Lord Carlingford	XXXIII. 403 ..	" " "
1877 Aug. 7	Hereford ..	Bishop of Hereford ..	XXXIV. 467 ..	" " "
1878 July 30	Northampton	Lord Alwyne Compton ..	XXXV. 407 ..	" " "
1879 Aug. 5	Taunton ..	Bishop of Bath and Wells..	XXXVI. 389 ..	" " "
1880 July 27	Lincoln ..	Bishop of Lincoln	XXXVII. 427..	" " "
1881 July 26	Bedford ..	Charles Magniac	XXXVIII. 436	" " "
1882 Aug. 1	Carlisle ..	Bishop of Carlisle	XXXIX. 427 ..	" " "
1883 July 31	Lewes ..	Earl of Chichester . ..	XL. 438 ..	Earl Percy.
1884 Aug. 5	Newcastle ..	Duke of Northumberland ..	XLI. 415 ..	" "
1885 July 28	Derby ..	Lord Carnarvon	XLII. 483 ..	" "
1886 Aug. 10	Chester ..	Duke of Westminster ..	XLIII. 429 ..	" "
1887 Aug. 2	Salisbury ..	Lieut.-General Pitt-Rivers	XLIV. 407 ..	" "
1888 Aug. 7	Leamington ..	Lord Leigh	XLV. 451 ..	" "
1889 Aug. 6	Norwich ..	Duke of Norfolk	XLVI. 438 ..	" "
1890 Aug. 12	Gloucester ..	Sir John Dorrington ..	XLVII. 412 ..	" "
1891 Aug. 9	Edinburgh ..	Sir Herbert Maxwell ..	XLVIII. 436 ..	" "
1892 July 11	Cambridge ..	Earl Percy	XLIX. 410 ..	Viscount Dillon.
1893 July 11	London ..	Viscount Dillon	L. 364 ..	" "
1894 July 24	Shrewsbury ..	Sir H. H. Howorth..	LI. 402 ..	" "

Date.	Place.	President of Meeting.	Reference to Journal.	President of Institute.
1895 July 23	Scarborough..	Archbishop of York ..	LII. 392 ..	Viscount Dillon.
1896 July 22				
1897 Aug. 10	Canterbury ..	Archbishop of Canterbury..	LIII. 376 ..	,, ,
1898 July 19				
1899 July 25	Dorchester ..	General Pitt-Rivers ..	LIV. 401 ..	,, ,
1900 July 18				
1901 July 23	Lancaster ..	Sir H. H. Howorth..	LV. 397 ..	Sir H. H. Howorth.
1902 July 22				
1903 July 21	Ipswich ..	Earl of Stradbroke ..	LVI. 388 ..	,, ,
	Dublin ..	Earl of Rosse ..	LVII. 326 ..	,, ,
	Nottingham ..	Lord Hawkesbury ..	LVIII. 450 ..	,, ,
	Southampton	Lord Montagu of Beaulieu	LIX. 346 ..	,, ,
	York ..	Sir G. J. Armytage, Bart..	LX. 374 ..	,, ,

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